

Observations on Termites ; with Descriptions of new Species.

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[Read 3rd June, 1897.]

(PLATES 22-25.)

INTRODUCTION.

THE Termites here described are chiefly those collected by myself in South Africa, the Malay Peninsula, and Borneo. I am, however, indebted to Mr. C. Hose, of the Sarawak Government Service, and to my brother in Natal for many of the specimens. The importance of the collection depends on the completeness of the material, and on the fact that I spent much time and trouble in examining the nests. The collection was made from about 1000 nests belonging to about 90 different species. The actual number of specimens in the collection must be about 100,000. Mr. Ridley of Singapore gave me the first stimulus to collect Termites and helped me in many ways ; but to Dr. David Sharp, who is responsible for my having undertaken the description of the species, I am especially indebted for having not only revised the proofs, but, in my absence, superintended the preparation of the plates. I am also indebted to Herr Wasmann for type-specimens of his species.

All the measurements are given in millimetres. The length of the soldier's head is measured from the vertex to midway between the anterior articulations of the mandibles. The length of a mandible is measured from the anterior articulation to the apex. The measurements and characters which are given of a wing are those of an anterior wing detached at the natural suture.

CLASSIFICATION.

In the matter of genera I have followed Hagen. His genera admit of distinctions common to every caste. The genus *Termes* contains numerous species of very diverse forms and habits, yet it cannot be subdivided by characters common to every caste. The genus *Calotermes* is as widely distributed as the genus *Termes*, but has only a tenth as many species, and they are rather uniform in habits and readily separable from those of the genus *Termes*. The genus *Termopsis* bears much the same relation to the genus *Calotermes* that the genus *Hodotermes* does to the genus *Termes*: both appear to have a more limited distribution and a more ancestral form. The two species

Hodotermes (*Porotermes*) *quadricollis*, Rambur, of Chili, and *Hodotermes* (*Stolotermes*) *brunneicornis*, Hagen, of Tasmania appear to belong to distinct genera, but I have seen no specimens. Nor have I seen the *Anaplotermes pacificus* of F. Müller.

The genus *Termes* is so large that Hagen, who tried to make several genera of it, failed owing to the incompleteness of his material. I also have failed, and think that in the interests of naturalists the attempt should be postponed. I have avoided the use of named subgenera because they have no place in the Linnean system of nomenclature, and therefore cause confusion. The genus does, however, present natural groups, and these I have attempted to define, but more material and further examination will alter the definitions and limits I have given. The groups can seldom be distinguished by characters common to every caste, nor are the limits of the groups the same if we rely on the soldiers as if we rely on the males.

The largest forms of the genus are fungus-growers. There is an American group of large termites, represented by *T. dirus*, which are almost certainly fungus-growers; the soldiers have a pair of lateral horizontal spines on the pronotum. There are three Old World groups of fungus-growers. The most important is represented by *T. bellicosus*; it builds tall mounds, the imago and soldiers are of large size, and the latter have a transparent tip to the labrum and a toothless margin to the mandibles. The second is represented by *T. vulgaris*; it builds insignificantly small mounds or none at all; the imago is large, but the soldiers are of moderate size, have a few bristles at the tip of the labrum and a minute tooth at the middle of the cutting-margin of each mandible, or at any rate of the left one. The last group, represented by *T. incertus*, has individuals of moderate size and quite different habit from those of the previous groups.

A remarkable group in which the soldiers have a very large foramen in front of the head, from which when angry they can discharge a copious viscid milky fluid, has been given the subgeneric name *Coptotermes* by Herr Wasmann. The group is quite worthy of generic rank.

Another remarkable group, in which the soldiers have a minute foramen in front of the head, and a long labrum reaching to the tips of the strongly toothed mandibles, was given the subgeneric name *Rhinotermes* by Dr. Hagen. This group also is worthy of generic rank. I here describe the soldiers of two species

which are evidently different from and yet allied to this group, though I have not yet obtained an imago.

These groups, the fungus-growers, *Coptotermes* and *Rhinotermes*, have soldiers with pronotum more or less flat, and antennæ of usually more than 14 segments, and abdominal papillæ usually easily visible. They have imagos in which the wings show the median nerve midway between the submedian and subcostal. The remaining groups, containing much the larger number of the species, have imagos in which the wings show the median nerve much nearer the submedian than the subcostal, and soldiers whose antennæ have seldom more than 14 segments. It is to these that Dr. Hagen gave the subgeneric name *Eutermes*; they comprise numerous groups, with difficulty recognized by the imagos, but readily recognized by the soldiers. The name *Eutermes* had been previously applied by Heer to some fossil forms of the genus *Termes*, known only from the imago, and in one case only from the wings. The name was limited by Dr. Fritz Müller to a much smaller group, that in which the soldiers have rudimentary mandibles and a long conical rostrum. He raised this group to generic rank: it is a natural group, worthy of generic rank, if indeed it be not worthy of forming several genera, but it was not in this sense that Heer or Hagen used the name *Eutermes*. There are a few species in which the wing shows the median nerve nearer to the submedian than the subcostal, and in which the soldier has a flat pronotum. *T. planus* has a small flat pronotum with an anterior median process, a character found in every caste. *T. tenuis* has a large, flat, anteriorly bilobed pronotum in the soldier. But in most of the groups in which the median nerve is markedly nearer the submedian than the subcostal, the pronotum of the soldier is saddle-shaped with much depressed lateral angles and elevated anterior lobe, and the antennæ have from 12 to 14 segments. These groups contain the greater number of the species, and fall into three sets. In the first the mandibles of the soldiers have a cutting-margin and the labrum is chitinized; in the second the mandibles, though of considerable length, have no cutting-edge, and the labrum is small and white, with two minute acute diverging lobes; in the third the mandibles are rudimentary, and there is a long perforated conical rostrum in front of the head.

The species of the genus *Termes* seem in some cases to be very

distinct and readily distinguishable, and in other cases to pass indistinguishably into one another. In those groups in which the species are easily distinguishable, I trust that my descriptions will be found sufficient. In the groups in which the species are not easily distinguishable, I have not attempted to outdo nature in distinctness; indeed, in this respect I am conscious of shortcomings. In every case I trust that more reliance will be placed on my specimens than on my descriptions.

CHARACTERS.

The following brief remarks on the external characters of Termites refer almost entirely to the species of the genus *Termes*, for on the other genera I have nothing new to advance.

The enormous number of individuals in a nest, all of whom may be considered as the children of the same parents, provides material for the study of normal variation and of specific limits scarcely to be met with elsewhere. The great difference of character in the different castes also introduces new conditions in the classification of species, and in the study of heredity not often to be met with.

In the genus *Termes* the soldier is by far the best caste to determine species from; not only is the soldier easier to determine than the male, but it is found in almost every nest, and usually wherever the workers go. Though the imago was the caste on which Hagen founded most of his species, though it is the form found fossil in amber, though it is the form caught flying round a lamp at night, yet it is generally absent from the nests, and is often insufficient for the determination of species. I have not found the characters of the wings very useful or reliable. In one case I have based species on differences in the imago, though I could see no difference whatever in the soldier; but as a rule my species are based chiefly on apparent differences in the soldiers.

There are two external characters which are correlated in the soldiers and the males of the genus *Termes*: the abdominal papillæ show a corresponding degree of development, and the number of segments of the antennæ is approximately in the proportion of 8 to 9. The characters of the antennæ are probably more important than any others in the determination of the species. It is easy enough with a little care to determine whether the apical segments are present or, as often happens,

are broken off, for the apical segment is of a different shape from the others. Although the segments of the antennæ are fewer in the soldier than in the male, they are generally longer and more cylindrical, so that the antennæ of the soldiers are often as long as or longer than those of the imago. The antennæ of the workers, on the other hand, are always much shorter, yet the number of segments which compose them is never less than in the soldier and never more than in the male. The actual length of the antennæ in the genus *Termes* seems to be but little correlated with the actual number of segments which compose them, whether we compare the different species, or whether we compare the different castes. Long antennæ go with long legs, and this is true whether we compare caste or species. Long legs and long antennæ go with much walking and foraging; and this is true when we look to differences between species, but not when we look to differences between castes. Soldiers with long slender legs belong to species which forage for food at a distance from the nest: soldiers with short stout legs belong to species sluggish in their movements, and which venture but little from home.

Blindness amongst the soldiers and workers is more universal than it is in ants. There seems no reason to doubt that the blindness is connected with the mode of life. The impossibility of attributing the blindness to the inherited effects of disuse, seeing that none of the parents in any of the species are blind, utterly discredits such an explanation in the case of other blind animals.

In all the castes the abdomen varies greatly in size and appearance according to the nature of its contents.

The winged imagos have an unconquerable desire to leave the nest, and to run the risk of dangers from which not one in many thousands escapes. By this means it is that interbreeding and distribution are effected. Dr. Fritz Müller aptly compared the winged individuals to perfect flowers, and the neoteinic individuals to cleistogamic flowers. The comparison may be carried a step further. In temperate climates the winged forms appear in early summer; in equatorial regions they appear for the most part in simultaneous swarms at favourable seasons, whilst in some species they seem to be constantly produced in small numbers the whole year round. The problems of when to swarm and how many imagos to produce seem to be solved in

nearly the same ways as the problems of when to flower and how many flowers to produce.

They fly but feebly, allowing themselves to be carried by the wind, and could scarcely cross more than a mile or two of water.

The wings are soon shed across a transverse basal line. The method of breaking off the wings is to elevate them; this will be found effective in dead insects. The live insect uses its legs and abdomen to elevate its wings, or in other cases pushes them against some object; yet in some cases the live insect will shed all four wings with inexplicable rapidity. Their wings not only prevent their burying themselves and hiding, but on a perfectly level surface are a danger to them, for birds are seen to pick up those with wings in preference to those without.

At the time of swarming the males and females of the genus *Termes* pair, the male following the female and often clinging to her abdomen; but there are no copulatory organs, and the sexual organs are not at that stage mature. In *Termopsis* and *Calotermes* (pp. 372-373) it seems that the males and females do not run about in pairs.

In most, if not in all species a pair of termites can found a nest without assistance. Smeathman, however, states that in *T. bellicosus* such pairs are protected by any soldiers and workers who may find them, and are by them treated as kings and queens. Some observations made by my brother strongly confirm this statement in respect of the fungus-growing species. Those who have not lived in hot climates seem to have difficulty in realizing the extent to which the ground may be permeated by termites.

The females do not differ from the males in head and thorax, though careful measurements may find the male to be the smaller. The abdomen of the females becomes at the last moult different from that of the males on account of a characteristic change in the ventral plates of the 7th, 8th, and 9th abdominal segments. In all species of the genus *Termes* the abdomen subsequently swells to many times its original size; but this swelling is not accompanied by any moulting; the chitinous plates do not alter, but become separated by the distension of the intervening cuticle. Dorsally and ventrally secondary chitinization occurs in some groups in the cuticle anteriorly to the original chitin plates. In most groups there are present a number of minute lateral thickenings, usually coloured, and bearing each a hair.

When, as in most species, the queen is enclosed in a royal cell

from which she is too large to escape, a familiarity with the nest and habits of the species will lead to her discovery without much trouble; but in all species other than the fungus-growers the king can leave the royal cell, and generally does so when he finds the nest is being opened. In many species, however, the queen wanders about the nest, and she then seeks, like the king, to avoid observation when the nest is being opened. In such cases there is only one way of searching methodically for her. Remove the nest with as little disturbance as possible to a convenient place free from the attacks of ants, a large table with its feet standing in water is the best place. Break the nest into fragments, remove each fragment one by one, examine it carefully, and put it aside in a safe place so that the search may, if necessary, be gone through a second time. If the nest has been broken into fragments before it has been much disturbed, the king will be found in the same fragment as the queen. If the nest be broken into fragments gradually, the king, if found at all, will generally be found in the fragment last examined. The longest time I spent searching through one nest was three days. I found a king; the queen escaped me, but I feel confident that was due to my own want of care, and she was really there.

I have found colonies which I believed to be through some accident queenless; and there are no doubt species in which a single colony owns several nests; but the rule is that every nest has a true royal pair. I have found as many as six true royal pairs; they were, as is always the case, in the same royal cell, their tarsi were injured, presumably as the result of quarrelling.

When there is a true queen, she is, so far as my observations go, always accompanied by a true king. When there is more than one true queen, the number of true kings is generally equal to them; but often it is less, and occasionally it is greater. The king has no copulatory organs; from Prof. Grassi's observations it is probable that in *Calotermes* copulation nevertheless does take place. In *Termes malayanus* I have reason to think that the king fertilizes the eggs after they are laid; indeed, copulation in the case of kings and fully-grown queens of most species of the genus *Termes* is apparently impossible.

I raised neoteinic forms artificially in two species of *Calotermes*. In species of the fungus-growers neoteinic forms have never been found. In five cases I removed the royal pairs from nests

of *T. malayanus*, and after three or four months again examined the nests. In three out of the five cases substitution pairs exactly resembling the original ones, with well-formed wing-stumps, were present; in the other two cases I could not find a royal cell, and believe that the loss had not been repaired.

Natural neoteinic forms are very abundantly found in some species, especially in those whose soldiers have a saddle-shaped pronotum and are mandibulated. In forms with nasute soldiers I found neoteinic queens in only two species, *T. borneensis* and *T. matangensis*. Neoteinic queens are generally raised in considerable numbers, and become fewer in number as they grow older. They are always found in the same part of the nest, although, unless few in number, they cannot all occupy the same cell.

By neoteinic individuals I mean fertile individuals the condition of whose thorax makes it clear that they have never been capable of flight. Though the true queens are always accompanied by kings, the neoteinic queens are often consortless. They may be accompanied by one or more true kings, or by one or more neoteinic kings; but the kings are almost invariably less numerous than the queens, and are in many cases wholly absent. This last conclusion indeed rests on negative evidence only, and in the case in which I am most positive (*T. matangensis*, nos. 358 & 359) neither eggs nor young larvæ were present in the nests, though winged males and females were abundant.

The function of the soldiers I believe to be defence, and defence only. Some able observers have arrived at a different conclusion; but on what grounds I am not clear. There is a vast difference in functions of offence and functions of defence: the most successful defence is to prevent attack; defence has half failed when attacks must be repulsed. The great enemies of termites are ants; and the function of the soldiers seems to me to be to defend any openings in the nests by putting their heads in the way whilst the workers build fortifications. Those soldiers which have a saddle-shaped pronotum and well-developed mandibles are very sluggish, and seem quite useless when a nest is opened. It is the nests to which these belong that birds are most fond of; but while broken nests may be used to bait bird-traps, unbroken nests seem sufficiently strong to resist the birds.

Those soldiers which have a saddle-shaped pronotum and rudimentary mandibles secrete a clear viscid fluid from a sac which

occupies a great part of the head, and opens by a duct which passes down the rostrum. The soldiers may be seen to dab a little of the fluid on the antennæ of their enemies by a quick movement which is clearly a modification of the shaking movement so often seen in worker termites. By this means such enemies as ants are placed *hors de combat* when they do not, as they generally do, avoid these soldiers. But such a mode of defence would seem quite useless in dealing with birds and mammals. However, all the species of the section to which *T. umbrinus* belongs traverse the jungle, returning home by daylight exposed in long lines which take an hour or more to pass one spot, the soldiers walking beside the laden workers. In most of the species the soldiers and workers retreat when disturbed; but in *T. longipes* the behaviour is unusually active. The workers vanish at once beneath sticks and leaves; and if specimens be not quickly secured, they will soon be very hard to find. The soldiers, on the other hand, rush to the attack, not in line, but singly; climbing every leaf and stalk, they stand with uplifted rostrum challenging the enemy. But these species with rostrum and rudimentary mandibles are not the only ones which secrete a viscid fluid from the head. The soldiers of *T. foraminifer*, which have a saddle-shaped pronotum and long crooked mandibles, also have a minute orifice in the front of the head. In all the species of *Rhinotermes* the soldiers have a similar foramen and a shallow groove which runs from it to the tip of the labrum. *T. malayanus* has a similar minute foramen, the orifice of a sac occupying the middle of the head. Most soldiers of the fungus-growers and also those of *T. sulphureus*, when angry, discharge a viscid fluid from large salivary vesicles opening into the mouth. The most remarkable form of orifice in the front of the head is in the section *Coptotermes*. The soldiers of both *T. Gestroi* and *T. travians* have very large orifices in the front of the head from which, when angry, they emit a copious white viscid fluid which runs down to the mandibles. The soldiers of *T. Gestroi* are very ferocious. The species is one which deliberately attacks and destroys live trees. The workers build up a thick earthy crust round the stem of the tree for the height of 7 or 8 feet from the ground; beneath this crust they leisurely seek out weak spots and penetrate to the centre of the tree. If the crust be broken, the workers very quickly retreat; but the soldiers rush to the attack, a milky white fluid standing between their open

jaws, they lift themselves up and then hammer their heads against the tree, producing a rattling sound. If left alone they soon retire under cover; but if one breaks into their retreats, out they come again in great excitement, hammering their heads, opening and shutting their jaws, and discharging their milky secretion. In the section of the fungus-growers to which *T. bellicosus* belongs the workers run away to their subterranean passages when the nest is being opened, whilst the soldiers stay to defend the nest; generally the smaller soldiers are more active than the larger, for they run about whilst the larger occupy the crevices of the nest and the cavities of the fungus-buds, there they wait and bite at anything which comes in reach. The soldiers of this group can generally produce the rattling sound. In this accomplishment, *T. carbonarius* has reached the highest stage of development, for the soldiers can hammer in rhythmic unison. At first a few begin irregularly, then they get into time, and the others take it up. Every soldier in the exposed portion of the nest stands up and hammers with his head; the blow is given thrice in very quick succession, and then there is an interval of two seconds. The noise they produce reminded me of wavelets lapping on a shore. This trick of hammering with the head is seen in only a few species; it is clearly a modification of the shaking movements so often seen in workers.

I have not found a species without soldiers, though Dr. Fritz Müller found some in America. I have rarely found a nest without soldiers, though in *T. lobatus* I have done so. Generally the soldiers are numerous, perhaps about a fifth part as numerous as the workers. It is only just before the last moult that they take on their peculiar form. In many species there are two kinds of soldiers, the larger and the smaller, without intermediate forms. This is especially noticeable in the group of fungus-growers to which *T. bellicosus* belongs, and in *Rhinotermes*, in which the difference is very marked. In two species of soldiers with rostrum and rudimentary mandibles (*T. trinervius* and *T. longipes*) a similar condition occurs.

To the workers I have not paid much attention. The amount of colouring and chitinization is correlated with the period during which they are exposed to light. A broad head, slender legs, and arched abdomen goes with activity and the habit of foraging for food. A narrow head, short stout legs, and fusiform abdomen go with a sluggish habit. The workers not only collect the

food and build the nest, but also nurse the young, and may be seen carrying the eggs and young larvæ to places of greater safety. In some species they certainly take care of the queens. I have spirit-specimens of *T. hospitalis* and *T. malayanus* in which many of them are biting the abdomen of the queen. I have no doubt this is to stimulate her to move and escape from danger. The curious irregular contractions seen in the queen's abdomen when alive I attribute also to endeavours to escape; for I have reason to believe that they do not occur when the queen is at rest, and not in normal egg-laying. In some species the workers will bite an intruder, but more often they are only too anxious to escape.

The structure and position of termites' nests are very various. They agree in having the outer part closed so as to exclude their great enemies the ants, the entrances are generally few and well protected. There are, however, some exceptions to this rule, of which the most remarkable is the nest of *T. latericius*, which has two or three vertical shafts, an inch or two in diameter and about three feet deep, opening on the surface of the ground. *T. hospitalis* also has one or more large openings at the summit of the nest. Several species of the group to which *T. lacessitus* belongs, and which build round nests on the branches of shrubs, may also have several exposed openings into the nests.

The different groups of the genus *Termes* build nests of different characters; the most remarkable that I have seen are those of the fungus-growers, so well described by Smeathman in the case of *T. bellicosus*. The nests of the American fungus-growers seem unfortunately never to have been described. It was noticed by Smeathman that in some cases the nests of nearly allied species were more easily distinguished than the insects which built them. This is especially true of the species allied to *T. nemorosus*, which builds turret-nests closely like the turret-nests described by Smeathman. On the other hand, the appearance and shape of the nests are much modified by conditions; thus the mound-builders can live without a mound in cultivated ground, where mounds are not permitted. In the case of *T. malayanus* I have found such nests partially deserted from having become water-logged.

All the species whose soldiers have a distinctly saddle-shaped pronotum seem to use proctodeal discharges in the building of their nests. The fungus-growers, on the other hand, do not do

so, but moisten the pellets of clay which they bring with fluid from their mouths. In species of *Coptotermes* and *Rhinotermes*, and in *Termes tenuior*, I did not see what manner of cement was used. *T. planus* lived in shallow chambers eaten in the wood, much after the manner of *Calotermes*, and had no buildings.

Observers in America and Europe have concluded that the same colony often possesses several nests, only one of which is inhabited by fertile individuals, whose eggs and young are carried to the other nests. I do not doubt that this is so with a few species; I believe it to be so with *T. Gestroi*; nevertheless it is not so with the great majority of species which I have collected. Further, the evidence for such conclusion is, for the most part, negative, and therefore to be treated with great caution. As the search for king and queen goes on hour after hour without success, exhausted patience induces strong wish for a conclusion; and it is then that the difficulty arises of keeping the influence of wish from upsetting the even balance of judgment.

Family TERMITIDÆ.

The Termitidæ, commonly known as White Ants, are insects feeding on wood and dead vegetable matter, living socially in colonies of sterile and fertile individuals, which grow very slowly and have no pupa-stage. Antennæ situated in a shallow fossa at the side of the head just above the base of the mandibles. Mandibles powerful, except in the soldiers of some species. Maxillæ with double chitinous hooks and long 5-segmented palpi. Head hinged to the prothorax by means of a pair of lateral cervical sclerites. Tarsi of 4 segments, the distal as long as the three proximal together. Pronotum, mesonotum, and metanotum distinct. Abdomen of 10 segments; the ventral plate of the basal segment absent; that of the apical segment divided, and bearing at the lateral ends a pair of short cerci; that of the 9th segment in the larva, and often in the adult, with a pair of small papillæ near the centre of its posterior border.

Males with a pair of compound eyes placed just above the antennal fossæ, and for the most part a pair of ocelli situated near their inner borders. Frequently there is a median fenestra. When young there are two pairs of large, membranous, nearly equal wings, which in rest are superposed and project far beyond the apex of the abdomen; these wings are used in flying from

the nest and then shed across a transverse basal line, leaving sub-triangular wing-stumps. The vas deferens opens behind the ventral plate of the 9th abdominal segment. The males live permanently along with the females, but there are no copulatory organs.

Females when young closely resemble the males. The ventral plates of the 8th and 9th abdominal segments are divided, and the halves are small and separated. When the female becomes the mother of a colony, her abdomen enlarges by dilatation of the cuticle between the chitinous plates; and sometimes there is secondary chitization extending forwards from the anterior borders of the plates.

The soldiers are sterile, wingless, and for the most part blind. Their head is chitinous and strong, peculiarly and variously modified for defence. The segments of the antennæ are more elongate than in the males and females, and fewer, generally in the proportion of 8 to 9. The mandibles are very various in the different species, but very characteristic of each species, and quite different from those in the males and workers. The gula is large and firmly united to the head, generally for the greater portion of its length. The cervical sclerites are larger than in the males and workers. The thorax and abdomen are generally but little chitimized; the latter is generally more quadrate than in the workers. Some individuals have rudiments of ovaries, and some of testes; but the ventral plates of the 8th and 9th abdominal segments are always entire.

The workers are wingless and for the most part blind; they are but little chitimized, and larval in appearance. The head is round, the antennæ are shorter than in either male or soldier, and the number of segments intermediate. The mandibles are short and powerful, and covered by the obtuse labrum. In species which nest in the wood on which they live the form is cylindrical, and the legs shorter than the abdomen. In species which wander much in search of food the thorax is considerably narrowed, and the legs longer than the abdomen.

Termites inhabit all the warm regions of the earth in countless numbers. They are unable to withstand a prolonged winter's frost. Their greatest enemies are ants. Their chief means of defence is their power of burrowing and building.

Synopsis of the Genera.

Antennæ of more than 20 segments.

Pronotum with convex anterior margin and strong lateral processes 1. *Hodotermes*.

Pronotum with anterior margin straight or concave 2. *Termopsis*.

Antennæ of not more than 20 segments.

Pronotum large and arched, with concave anterior margin 3. *Calotermes*.

Pronotum various 4. *Termes*.

In this synopsis *Hodotermes quadricollis*, Rambur, of Chili, and *Hodotermes brunneicornis*, Hagen, of Tasmania, are not considered. They probably belong to distinct genera, but I have seen no specimen.

Gen. HODOTERMES, *Hagen*.

Eyes small, but present in every case; ocelli absent. Fenestra absent. Antennæ of from 25-32 segments, the 1st, 2nd, 3rd, and 4th decreasing successively in length. Suture well defined. Pronotum with convex anterior portion and strong lateral prominences. Legs slender, the proximal segment of the tarsus as long as the 2nd and 3rd together. Cerci short, 2-segmented. Abdominal papillæ slender (according to Hagen, present even in the female).

Male with broad round head. Epistoma not prominent. Tarsi without plantulæ. Anterior wing-stumps not overlapping the posterior. Wings more than 4 times as long as broad; the costal area traversed by several branches from the subcostal nerve.

Soldier with head large, ferruginous, subquadrate. Mandibles large and strongly toothed, covered at the base only by the short broad labrum. Thorax and abdomen yellow. Pronotum large. Mesonotum and metanotum broader than the abdomen, flat, and projecting horizontally much beyond the under portions of the thorax.

Worker with head broad and orbicular. The thorax much narrower than the abdomen.

The species of *Hodotermes* work by daytime in the open. They enter holes in the ground, but their nests are still unknown.

There are a few species in Africa and in the North-west of India.

HODOTERMES HAVILANDI, Sharp. (Pl. 23. figs. 1, 2.)

Soldier 13 mm. long; head ferruginous, mandibles with black tips, antennæ, thorax, and abdomen ochroleucous. Head subquadrate, breadth from 3·5 mm. to 4·2 mm., length slightly less. A pale spot in the position of the ocellus. Antennæ of 27 to 28 segments. Labrum 1·5 mm. broad by ·7 mm. long. Mandibles 2·7 mm. long; apical tooth strong, subulate; middle tooth subtriangular, basal tooth short and broad. Gula 2 mm. long, its distal half broad and free. Pronotum with strong antero-lateral processes, converging lateral margins, and a more or less concave posterior margin. Mesonotum with uniformly rounded lateral margins, and slightly convex posterior margin. Metanotum with rounded lateral margins; the posterior margin has a broad central lobe, but is concave towards either side.

Worker 10 mm. long, more or less purple castaneous. Head to 3·5 mm. broad. Antennæ of 30 to 32 segments. Pronotum narrower than the mesonotum. Femora reaching to the apex of the abdomen.

Hab. Natal (*Colenso, Weenen*).

Gen. *TERMOPSIS*, Heer.

Eyes small. Ocelli absent. Fenestra absent. Antennæ of 23 to 27 (?) segments. Y-suture obscure. Pronotum nearly flat, with concave anterior margin. Legs stout, the proximal segment of the tarsus scarcely longer than the next. Posterior femora not nearly reaching the end of the abdomen. Cerci long, 4- to 6-segmented. Abdominal papillæ slender, but absent in the female.

Male with head ovate. Antennæ of 27 (?) segments. Epistoma not prominent. Tarsi with plantulæ. Anterior wing-stumps with convex margin, much larger than the posterior, and overlapping them at the base. Wings less than 4 times as long as broad, the costal area traversed by several strong branches of the subcostal nerve. The areas of the wing occupied by reticulated nervures.

Soldier with large quadrate head, bright testaceous in colour, posteriorly ochraceous. Some of the soldiers have eyes, more often they have none. Antennæ of 23 to 25 segments. There

is a strong projecting ridge at the anterior margin of the antennal fossa. Mandibles black, half as long as the head or longer, the margin with short subtriangular teeth. Labrum small, subquadrate. Gula long and united to the head for almost all its length.

The workers appear to be imperfectly differentiated from the larvæ.

The genus is found in California and Central America. Hagen described the males and females of *Termopsis angusticollis* from California, and the soldiers of *T. occidentis* from the west coast of Central America. In the Cambridge Museum are soldiers from California in spirit; presumably they belong to *T. angusticollis*; they differ from those of *T. occidentis* in having a longer head and a much straighter anterior margin to the pronotum. The relative size of the 2nd and 3rd segments of the antennæ seems inconstant.

GEN. CALOTERMES, *Hagen*.

Antennæ of not more than 20 segments. Fenestra absent. Y-suture obscure. Pronotum large and arched, the anterior margin concave, nearly parallel to the posterior, the lateral margins rounded. Femora short, the hind legs seldom reaching to the apex of the abdomen. Cerci 2-segmented. Abdominal papillæ short, absent only in the female.

Male with head ovate and convex in profile, with compound eyes and ocelli. Antennæ with the segments larger towards the apex. Epistoma not prominent. Feet usually furnished with plantulæ. Anterior wing-stumps with convex border much larger than the posterior which they overlap. Either the costal area of the wing is veined, or the median runs in close contiguity with the subcostal nerve. The submedian and its branches very faint.

The abdomen of the female is never much swollen.

Soldier with strong head often subtruncate in front. Eyes represented by a pale spot, rarely pigmented. Antennæ short. Mandibles black, strong, cutting, generally toothed.

Worker larval in appearance, cylindrical in shape. Head pale. It is probable that all to whom accidents do not happen eventually become winged fertile individuals.

Nestless, living in the hollows which they make in eating wood; they pass solid oval grass, and do not build covered ways,

though they may stop up cracks with moist proctodæal discharges. Their societies do not number more than a few hundred individuals. The species are as widely distributed as are those of the genus *Termes*, but they are only a tenth part as numerous.

CALOTERMES DOMESTICUS, n. sp. (Pl. 23. figs. 3-6.)

Male 5 mm. long, stout, ochraceous above, paler below. Ocelli in contact with the eyes. Antennæ of 16 segments, the 2nd slightly larger than the 3rd. Pronotum 15 mm. long, .8 mm. broad. Front wing-stumps quite covering the hind ones. Wings 6 mm. long by 1.8 mm. broad, silvery when dry, transparent when wet; 4 or 5 strong nervures cross the costal area; the median joins the subcostal beyond the middle. The hind legs reach the 5th abdominal segment.

Female with the abdomen not elongating more than in the male, but becoming much deeper.

Soldier 4 mm. long. Head 1.3 mm. broad, nearly black, posteriorly atropurpureous, truncated in front, and forming an angle of less than a right angle with the mandibles. Antennæ pale, of 12 segments, the 2nd and 3rd very short. Below the antennal fossa is a strong anteriorly projecting spine. Mandibles subtriangular, with cutting-margin and incurved tips. Gula very short and almost free. Lateral cervical sclerites very large, more than half as long as the head. Pronotum more than a semicircle, as broad as the head, and longer than the mesonotum and metanotum together. Hind legs reaching to the 5th segment of the abdomen.

Worker 6 mm. long. The abdomen broader than the head or thorax.

Hab. Singapore and Sarawak. Plentiful in every house. Type, No. 376.

CALOTERMES PINANGÆ, n. sp.

Female 5 mm. long, slender, castaneous. Ocelli in contact with the eyes. Pronotum slightly narrower than the head. Tarsi pale. Hind legs reaching to the 4th abdominal segment.

Soldier 5 mm. long. Head .9 mm. long, broad, cylindrical, the anterior portion black, truncated, making with the mandibles an angle greater than a right angle, the posterior portion testaceous. Antennæ pale testaceous, of 10 or 11 segments, the 3rd very short. Labrum nearly covering the closed mandibles. Mandibles

castaneous, strong, with incurved tips, the margin of the right with two short broad teeth, that of the left with two or three smaller teeth. Gula more than half as long as the head, but united to it only near the base. Lateral cervical sclerites about a quarter as long as the head. Pronotum slightly broader than the head, quadrilateral, with very concave anterior margin. The 9th, 10th, and often the 8th dorsal plate of the abdomen are latericious in colour.

Worker 6 mm. long, slender.

Hab. Sarawak. Type, No. 235.

CALOTERMES DENTATUS, n. sp.

Female 4.5 mm. long. Ocellus in contact with the eye. Antennæ of 11 segments. Pronotum reniform. Wing 4.3 mm. long, 1.1 mm. broad; costal area narrow, not nerved, the median contiguous to the subcostal throughout its length. Legs not reaching to the end of the abdomen. Ventral plate of the 7th abdominal segment nearly as broad as long.

Soldier 5 mm. long. Head 1.4 mm. long, .9 mm. broad, bright testaceous, anteriorly obliquely truncate, the truncated surface slightly concave. Antennæ of 10 segments, the 2nd longer than the 3rd. Labrum reaching to two-thirds the length of the mandibles. Mandibles .6 mm. long; tips black, incurved, the middle of the cutting-margin of each mandible with a single tooth directed transversely. Gula narrow, broad in the apical third. Pronotum as broad as the head; anterior margin deeply concave, the lateral margins converging posteriorly. Hind legs reaching to the 7th abdominal segment.

Worker 6 mm. long, slender, cylindrical.

Hab. Sarawak. Type, No. 355.

CALOTERMES BREVICAUDATUS, n. sp.

Male 4.5 mm. long, badius above, paler below. Head 1 mm. broad. Ocellus in contact with the eye. Antennæ of 13 segments, the 2nd scarcely longer than the 3rd. Pronotum slightly narrower than the head, with pale T-shaped mark. Wing 6 mm. long, 1.7 mm. broad, the costal area narrow and not nerved; the median contiguous to the subcostal through its whole length. Hind legs exceeding the short abdomen.

Female with the ventral plate of the 7th segment semilunar.

Soldier varying in size, from 7 mm. to 5 mm. long. Head

testaceous, darker anteriorly, subcylindric, obliquely truncated; the larger 2.3 mm. long, 1.3 mm. broad; the smaller 1.4 mm. long, .9 mm. broad. Antennæ of 11 or 12 segments, the 2nd scarcely longer than the 3rd. Labrum obtuse, reaching two-thirds of the length of the mandibles. Mandibles .8 mm. long in the larger soldiers, broad and testaceous at the base, black at the tip, with a single tooth on the right and two teeth on the left. Gula narrow, broader in the distal third, united to the head for nearly its whole length. Pronotum with postero-lateral corners rounded, and posterior margin broadly and obscurely lobed. Hind legs reaching to the 7th segment of the abdomen.

Worker 8 mm. long, cylindrical.

Hab. Sarawak. Type, No. 237.

CALOTERMES BORNEENSIS, n. sp.

Male 7 mm. long, badius above, pale below. Ocellus slightly separated from the eye. Antennæ of 12 segments, the 2nd subequal to the 3rd. Pronotum slightly broader than the head, reniform. Wing 17 mm. long, 1.8 mm. broad, umbrinous; usually but not invariably the costal area is narrow and not veined, and the median is strong and runs in close contiguity to the subcostal. Hind legs reaching to the 6th segment of the abdomen.

Female with the ventral plate of the 7th segment parabolic.

Soldier 8.5 mm. long. Head dark testaceous, paler behind, 2.4 mm. long, 1.7 mm. broad, anteriorly with two broad rounded tubercles separated by a median depression. Antenna of 11 segments, the third longer than either 2nd or 4th. Labrum obtuse, reaching nearly to the tip of the mandibles. Mandibles 9 mm. long, nearly black, margin slightly toothed. Gula narrow in the basal half, broader towards the apex, united to the head for almost all its length. Pronotum testaceous, as broad as the head. The hind legs reach to the 8th segment of the abdomen.

Worker 10 mm. long, cylindrical.

Hab. Sarawak. Type, No. 439.

CALOTERMES ARTOCARPI, n. sp.

Male 10.5 mm. long, bright testaceous, paler below, wing-stumps castaneous. Ocellus large, almost in contact with the eye. Antennæ of more than 13 segments, the 2nd and 3rd subequal. Pronotum broader than the head, the lateral margins convex. Anterior wing-stumps large, covering the posterior.

The ventral plate of the 7th abdominal segment broader than that of the 6th or 8th, that of the 9th small and narrow.

Soldier from 11 to 12 mm. long. Head 3·7 mm. long, 2·6 mm. broad, aurantiaceous, with a broad, shallow, concave area above the epistoma. Antennæ of 16 segments, the 2nd and 3rd subequal, the 4th much shorter. Labrum short, rounded. Mandibles 3 mm. long, black except at the base, the right with two large teeth, the left with many small ones. Gula narrow in the lower two thirds, broad in the upper third, united to the head for almost its whole length. Pronotum as broad as the head. Hind legs exceeding the abdomen.

Worker 9 mm. long.

Sarawak. Type, No. 177.

CALOTERMES DURBANENSIS, n. sp.

Soldier 8 mm. long. Head orange, testaceous. Antennæ of 13 segments, the 3rd much larger than the 2nd. Labrum short and broad. Mandibles black, upcurved, the right with one large tooth below the middle, the left with several smaller teeth. Gula somewhat narrow in the lower part, broad towards the apex, united to the head for nearly its whole length. Pronotum broad, with rounded lateral margin. Hind legs reaching nearly to the apex of the abdomen.

Worker 8 mm. long. Pronotum, mesonotum, and metanotum broad and arched.

Natal (Durban).

Gen. *TERMES*, *Linn.*

Antennæ of not more than 20 segments. Pronotum various, seldom large or arched. Cerci of 2 to 3 segments.

Fertile individuals with compound eyes and (except in *T. tenuis*) lateral ocelli. Feet without plantulæ. Anterior wing-stumps with nearly straight margins, seldom much larger than the posterior. Costal area of the wings narrow and not veined; the subcostal seldom gives off any branch, and the median only a few.

Soldier with head variously modified for defence in the different species, blind, either with cutting-mandibles, or with means of discharging a viscid fluid from a conical projection in the front of the head. The soldiers may be of different sizes.

Workers very variable, often narrowed at the thorax.

The species of *Termes* differ much in their habits, but they

almost all build nests of some kind. They inhabit all the warm regions of the earth, and number probably from two to three thousand.

A Synopsis of the Sections, based on Characters of the Soldiers.

- A. Pronotum rather large and flat, projecting laterally beyond the underparts.
- a. Fungus-growers. GROUP.
- Antennæ of 17 segments, 3rd longer than 2nd. Labrum with transparent tip *bellicosus.*
- Antennæ of 16 or 17 segments, 3rd shorter than 2nd. Labrum with a few bristles *vulgaris.*
- Antennæ of 14 or 15 segments, 2nd as long as 3rd and 4th together *incertus.*
- b. A large foramen in the front of the head. Labrum short *Gestroi.*
- c. A minute foramen in the front of the head. Labrum as long as the toothed mandibles.
- Antennæ of 16 or 17 segments *nasutus.*
- Antennæ of 13 segments *æqualis.*
- d. Pronotum half as broad as head, with an anterior median spine *planus.*
- e. Pronotum broad, its anterior margin bilobed *tenuis.*
- B. Pronotum small, saddle-shaped, with raised anterior lobe and depressed lateral angles.
- f. Mandible with piercing-tip and cutting-margin. Labrum short, but chitinated.
- Labrum entire. Mandibles with basal portion straight *dubius.*
- Labrum entire. Mandibles curved even from the base *sulphureus.*
- Labrum entire. Mandibles strong, incurved, with or without a strong tooth *dentatus.*
- Labrum lobed. Mandibles curved even from the base *bilobatus.*
- g. Mandibles long, but without piercing-tip or cutting-margin. Labrum small, white, with minute, acute, diverging lobes.
- Left mandible much bent. Abdomen white. *nemorosus.*
- Mandibles setiform. Abdomen white *setiger.*
- Mandibles setiform. Abdomen coloured. *comis.*
- Left mandible much bent. Abdomen coloured. *foraminifer.*
- h. Mandibles rudimentary. Head with perforated conical projection.
- Antennæ of 14 short segments *atripennis.*

- Antennæ of 12 or 13 segments. Head ochraceous. Rostrum slender *regularis*.
 Antennæ of 12 or 13 segments. Head fulvous. Rostrum conical *singaporiensis*.
 Antennæ of 14 segments, 3rd shorter than the 4th *laccessitus*.
 Antennæ of 14 segments, 3rd as long as or longer than the 4th *hospitalis*.

Section with Termes bellicosus for Type.

Male large. Antennæ of 19 segments, 3rd longer than the 2nd. Epistoma prominent and rounded. Ocelli large. Fenestra obscure. Pronotum with straight anterior margin and arcuate posterior margin. Anterior wing-stumps scarcely larger than the posterior. Median nerve midway between the subcostal and submedian, and branched 3 or 4 times. Hind legs exceeding the abdomen. Abdomen broad. Abdominal papillæ present.

Female with the abdomen enlarging to such an enormous size that she cannot drag it with her feet. The lateral cuticle of the abdomen smooth and white.

Soldier with broad glabrous head. Antennæ of 17 segments, the 3rd longer than the 2nd. A pale spot in the position of the compound eyes. Fenestra minute, perforate or imperforate. Labrum reaching to the middle of the mandibles, with white translucent tip. Mandibles black, powerful, upcurved, with pointed tips and toothless cutting-margin. Gula nearly uniform in breadth. Pronotum, mesonotum, and metanotum broad and flat, projecting well beyond the under portions of the thorax. Legs long and slender. Abdominal papillæ present. There are two distinct sizes of soldiers; the head of the larger is proportionally broader than that of the smaller.

Worker with head variable in size, chitinized and coloured. A pale spot in the position of the compound eyes. Fenestra large. Antennæ of 18 segments. Mesonotum narrow. Hind legs slender, considerably exceeding the abdomen.

Fungus-growers. Nest terrestrial, forming a conical mound with a hard outer shell. Royal cell massive, supported by delicate laminæ of clay. When the soldiers bite, they often emit a transparent fluid from their mouths.

T. dives, *T. fatalis*, *T. gilvus*, and *T. Azarellii* belong to this section.

TERMES CARBONARIUS, Hagen.

Male 18 mm. long, black, the mandibles, antennæ, labrum, and legs testaceous. Ocelli separated from the eyes by a full diameter. Fenestra minute. Antennæ of 19 segments, the 3rd more than twice as long as the 2nd. Pronotum without pale mark, semi-lunar, the anterior margin slightly concave. Wing 24 mm., umbrinous; the subcostal gives off 2 or 3 nervures towards its apex and has some ill-defined reticulation along its posterior border; the median branched once or twice before the middle and once or twice beyond it, it is equidistant between the submedian and the subcostal; the submedian gives off 4 or 5 broad unbranched nerves and 4 or 5 finer branched ones. Abdominal papillæ short, widely separate, the pale basal areas small.

Female with the ventral plate of the 7th abdominal segment narrower and not half as long again as the preceding. Abdomen of the queen reaches a length of 50 mm., and the membrane is smooth.

Soldiers: the larger 16.5 mm. long. Head 4.5 mm. broad and the same in length, black, testaceous beyond the level of the antennæ. A very distinct transparent spot in the position of the compound eye. Fenestra minute. Antennæ of 17 segments, the 3rd twice as long as the 2nd. Labrum ovate quadrate, with acuminate white tip, reaching to the middle of the mandibles. Mandibles 3.2 mm., upcurved, with piercing-tip and toothless cutting-margin. Gula 1 mm. broad, nearly uniform. Thorax and abdomen castaneous above, ochroleucous below. Pronotum with anterior and posterior margins bilobed, the postero-lateral margins convex. Mesonotum as broad as or broader than the pronotum, anterior margin curving into a postero-lateral corner, the posterior margin lobed. The metanotum is shorter than the mesonotum and has a straight instead of a lobed posterior margin. The femora reach nearly to the apex of the abdomen. The abdominal papillæ are well developed. The smaller soldier 11.5 mm. long. Head 3.4 mm. long, 3 mm. broad. Mandibles 2.4 mm. long.

Workers 8 mm. long, castaneous above. Head various in size up to 2.8 mm. broad. A transparent spot in the position of the compound eye. Fenestra large. Antennæ of 18 segments. Epistoma prominent. Thorax narrow. Abdomen with a high dorsal arch.

Singapore; Malacca; Siam; (Borneo?).

TERMES MALACCENSIS, n. sp.

Soldiers: the larger 12 mm. long; head ferruginous, thorax and abdomen ochroleucous. Head 4 mm. long, 3·7 mm. broad, triangular-ovate. A small pale spot in the position of the compound eyes. Fenestra minute. Antennæ of 17 segments, the 3rd more than twice as long as the 2nd, which is short. Labrum obovate-oblong, with acuminate white tips reaching beyond the middle of the mandibles. Mandibles 2·7 mm. long, with incurved piercing-tip and toothless cutting-margin. Gula 7 mm. broad in the middle, broader in the upper third. Pronotum with bilobed anterior margin, the lateral margins nearly straight, rapidly converging, the posterior margin nearly straight. Mesonotum narrower than the pronotum, the anterior and posterior margins curving to meet at an angle. The metanotum nearly as broad as the pronotum, the anterior margin curving sharply, the posterior margin slowly, to meet at a postero-lateral angle. Posterior femora exceeding the abdomen. The dorsal surface of the abdomen with numerous long hairs. Abdominal papillæ well developed. The smaller soldier 8 mm. long. Head 2·6 mm. long, 2·4 mm. broad. Mandibles 2 mm. long.

Worker 8 mm. long. Head 2·5 mm. broad, latericious. Antennæ of 18 segments. Dorsum of abdomen much arched.

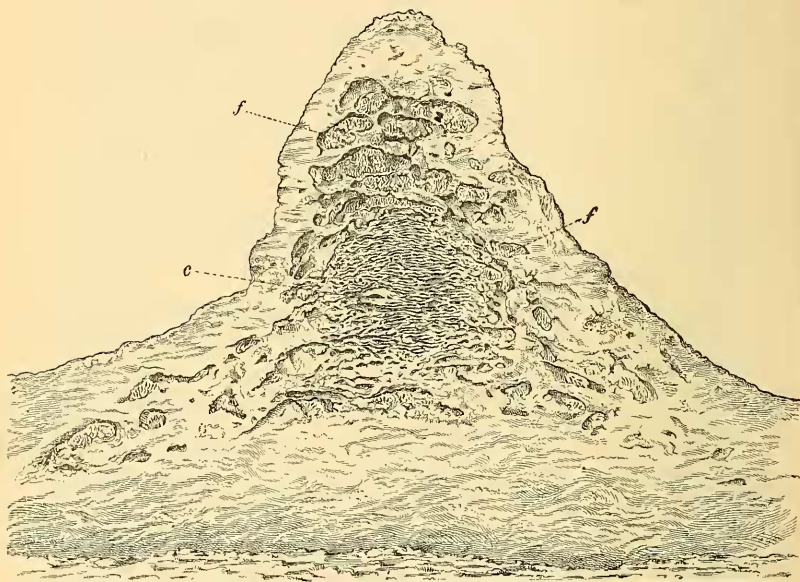
Hab. Malacca. Type, No. 503.

TERMES MALAYANUS, n. sp.

Male 14 mm. long. Castaneous above, latericious below; the epistoma, a moth-shaped mark on the pronotum, the anterior half of the mesonotum and metanotum testaceous, legs ochraceous. Ocelli large, separated from the eyes by half a diameter. Fenestra small. Antennæ of 19 segments, the 3rd not twice as long as the 2nd. Epistoma prominent. Pronotum with slightly concave posterior margin; postero-lateral margins slightly rounded, converging, posterior margin bilobed. Anterior wing-stumps but little larger than the posterior. Wings 25 mm. by 7 mm., fulvous; a line of deeper colour runs contiguous and parallel to the subcostal in the distal half of the wing; the median is at first midway between the subcostal and submedian, but soon becomes nearer to the latter, it branches at or a little beyond the middle of the wing, and once or twice again; there are 6 or 7 thick offsets from the submedian, and 4 or 5 branched slender offsets. Hind legs exceeding the abdomen. The abdominal papillæ small, their basal areas confluent.

Female with the 7th ventral plate 1·3 mm. long, 3·2 mm. broad. The abdomen of the queen enlarging to a length of 50 mm.

Soldiers: the larger 10 mm. long; head 3·3 mm. long, 2·9 mm. broad, ferruginous. An obscure white spot in the position of the eye. Fenestra perforated. Antennæ of 17 segments, the 3rd not twice as long as the 2nd. Labrum ovate, tip white, obtuse, reaching to the middle of the mandibles. Mandibles 1·8 mm., long, tip incurved, cutting-margin toothless. Gula 0·8 mm. broad, nearly uniform. Pronotum with the anterior and posterior margins lobed, the lateral margins rounded. Mesonotum and



Section of nest of *Termes malayanus*, drawn from a photograph taken in Sarawak. The nest was about 6 feet high.

c. Queen's cell, surrounded by delicate laminae of clay. f. Fungus-beds, occupying irregular cavities throughout the periphery of the nest.

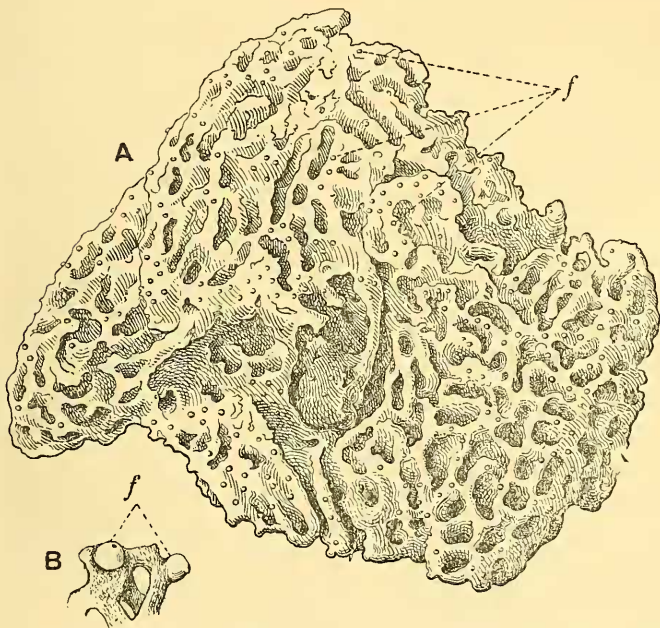
metanotum as broad as the pronotum, the lateral margins rounded and directed slightly backward. Hind femora exceeding the apex of the abdomen. Dorsum of abdomen glabrous. Abdominal papillæ minute. The smaller soldier 5 mm. long. Head 2 mm. long, 1·7 mm. broad. Mandibles 1·5 mm. long. Pronotum 1·3 mm. broad.

Worker 5.5 mm. long. Head to 2 mm. broad. Antennæ of 18 segments. Epistoma convex. Dorsum of abdomen arched. Abdominal papillæ well developed.

Hab. Malay Peninsula (Singapore); Borneo (Sarawak, Baram).
T. gilvus, a representative Javan species, seems distinct.

TERMES NATALENSIS, n. sp. (Pl. 23. figs. 7-10.)

Male 19 mm. long. Above castaneous; the mandibles, epistoma, a moth-shaped mark on the pronotum, the anterior portion of the mesonotum and metanotum testaceous; below testaceous.



A. Fungus-bed from a nest of *Termes malayanus*, showing fungus-globules, nat. size. B. Small portion of the same, magnified.

Ocelli large, separated from the eye by nearly a diameter. Fenestra smaller than ocellus, rather obscure. Antennæ of 19 segments, the 3rd twice as long as the 2nd. Epistoma prominent. Pronotum subsemilunar, with concave anterior border and rounded antero-lateral corners. Anterior wing-stumps but little larger than the posterior. Hind legs exceeding the abdomen. Wing 35 mm. long, 4 mm. broad; the costal and subcostal fulvous; the latter generally gives off a posterior branch towards the apex; the median branches 2 or 3 times, the first branch is at or about

the middle of the wing; the submedian gives off 5 broad unbranched offsets, and 5 or 6 more slender branched ones. Dorsum of abdomen flat. Abdominal papillæ short and widely separate.

Female with ventral plate of 7th segment 1.5 mm. long, 4 mm. broad. The abdomen of the queen reaches a length of 60 mm.

Soldiers: the larger 13 mm. long. The head 4.7 mm. long, 4 mm. broad, ovate-quadrate, ferruginous. Eye-spot pale, very obscure. Fenestra very minute. Antennæ of 17 segments. Labrum ovate, the white tip obtuse, reaching beyond the middle of the mandibles. Mandibles 2.4 mm. long, upcurved, with piercing-tip and toothless cutting-margin. Gula .8 mm. broad, nearly uniform. Pronotum lobed anteriorly and posteriorly, the lateral margin rounded, more sharply in front than behind. The mesonotum and metanotum nearly as broad as the pronotum, and with uniformly rounded lateral margins. Dorsum of abdomen hairy, hind femora not reaching the end of the abdomen. Abdominal papillæ present. The smaller 7 mm. long; head 3 mm. long, 2.5 mm. broad; mandibles 2 mm. long.

Worker 6 mm. long. Head castaneous, 2.6 mm. broad. Antennæ of 18 segments. Epistoma convex. Dorsum of abdomen arched. Papillæ present.

Nests forming mounds 4 feet high. Royal cell part of a large mass.

Hab. Natal.

Section with Termes vulgaris for Type.

Male large. Antennæ of 19 segments, the 3rd shorter than the 2nd. Fenestra absent or obscure. Epistoma prominent and rounded. The median nerve runs midway between the subcostal and submedian, and branches 3 or 4 times. The hind legs reach to the end of the abdomen. Abdomen broad.

Female with the abdomen enlarging to an enormous size. The cuticle laterally with numerous brown pigment-spots.

Soldier usually of one size only. Antennæ of 16 or 17 segments, the 2nd large, the 3rd short. Labrum with bristles, without transparent tip. Mandibles black, upcurved, with pointed incurved tip, the cutting-margin with a small tooth in the middle, more distinct upon the left side. Gula broad, narrower in the upper third. Thorax narrow, the pronotum projecting but little, the mesonotum and metanotum scarcely at all, beyond the underparts. Hind legs slender, reaching beyond the apex of the abdomen.

Worker with head chitinized and coloured. Antennæ of 17 segments. Fenestra absent.

Fungus-growers. Nest terrestrial, with scarcely any mound. Royal cell supported by delicate laminæ of clay in the middle of the nest. When the soldiers bite, they emit a milky fluid from their mouths, white or coloured.

To this section belong *T. angustatus*, *T. capensis*, and *T. taprobanes*.

TERMES BADIUS, n. sp.

Male 11 mm. long; above latericious, below pale testaceous. Ocelli large, separated from the eyes by more than a diameter. Fenestra ill-defined and small. Antennæ with the 2nd segment long, the 3rd the shortest. Epistoma prominent. Pronotum 2·7 mm. broad, semilunar, the anterior border slightly raised, the antero-lateral corners rounded. Posterior legs reaching beyond the end of the abdomen. Abdominal papillæ very minute.

Female with the abdomen reaching to a length of 70 mm., the lateral cuticle pigment-spotted.

Soldier of two sizes: the larger 10 mm. long, the head 3·6 mm. long, 3 mm. broad, ovate-quadrate, testaceous (in spirit-specimens often badius). Eye-spot pale, with pigmented centre. Fenestra absent. Antennæ of 16 or 17 segments, the 2nd long, the 3rd short. Labrum ovate on a broad base, with a few bristles near the tip, reaching to one third of the mandibles. Mandibles 1·7 mm. long, black except at the base, the tip incurved, the cutting-margin with a large tooth near the middle. Gula 1·2 mm. broad, narrow towards the apex. Pronotum 2 mm. broad, 1 mm. long, anterior portion prominent, elevated, bilobed, meeting the lobed posterior margin at a rounded angle. Mesonotum and metanotum narrower, flat, with rounded lateral margins. Hind femora reaching to the ventral plate of the 5th abdominal segment. Abdominal papillæ present. The smaller soldiers 7 mm. long; head 2·5 mm. long, 2 mm. broad, mandibles 1·4.

Worker 5 mm. long. Head ochroleucous, sometimes 2 mm. broad. Fenestra represented by an obscure pale spot. Antennæ of 18 segments, the 2nd long, the 3rd and 4th very short. Epistoma prominent. Hind legs exceeding the abdomen. Abdomen ovoid, the dorsum somewhat arched.

Fungus-growers.

Hab. Natal. Type, No. 573.

TERMES LATERICIUS, n. sp.

Male 16 mm. long, hairy, dark castaneous; mandibles, epistoma, a moth-shaped mark on the pronotum, the anterior portions of the mesonotum and metanotum testaceous; the legs and middle portions of the ventral plates umbrinous. Ocelli large, distant more than a diameter from the eyes. Antennæ of 19 segments, the 2nd longer than the 3rd. Epistoma but little prominent. Pronotum 2·7 mm. broad, semilunar, with concave anterior margin, rounded antero-lateral corners, and posterior margins slightly concave in the middle. The hind legs reach to the 7th segment of the abdomen. The anterior and posterior wing-stumps are subequal. Wings 26 mm. long, 8 mm. broad, umbrinous; a broad stain runs behind the subcostal, which gives two offsets near the apex of the wing, the first of which is branched; the median runs midway between the submedian and subcostal, and branches first in the basal quarter of the wing; the submedian gives 9 offsets, few of which are branched, it barely reaches the apical third of the wing. The abdominal papillæ are short and widely separated.

Female with the ventral plate of the 7th abdominal segment 1·3 mm. long, 3·3 mm. broad, oblong. Abdomen enlarging to a length of 70 mm., the lateral cuticle pigment-spotted.

Soldier 5 mm. long. Head 1·4 mm. long, 1·2 mm. broad, ovate, latericious in colour. Antennæ of 16 or 17 segments, the 2nd longer than the 3rd. Labrum lanceolate, tip with a few bristles, scarcely reaching the middle of the mandibles. Mandibles 9 mm. long, black at the tips, upcurved, tips incurved, cutting-margin with a tooth beyond the middle, very distinct on the left, obscure on the right. Gula ·9 mm. broad, narrower towards the apex. Pronotum 1·1 mm. broad, semilunar, with a raised convex portion on the anterior border. Mesonotum and metanotum narrower than the pronotum. Hind legs slightly exceeding the abdomen. Abdomen ovoid, coloured by the latericious contents of the salivary vesicles. Abdominal papillæ present.

Worker 5 mm. long. Head 1·5 mm. broad, latericious in colour. Antennæ of 17 segments, the 2nd longer than the 3rd. Epistoma convex. Abdomen ovoid, the dorsum slightly arched.

Fungus-growers. Nest without mound, but with one or two large passages opening on the surface of the ground.

Hab. Natal. Type, No. 79.

TERMES VULGARIS, n. sp. (Pl. 23. figs. 11-14.)

Male 14 mm. long, black, legs fuliginous, antennæ and mandibles testaceous, an obscure testaceous moth-shaped mark on the pronotum. Ocelli distant 2 diameters from the eyes. Fenestra absent. Antennæ of 19 segments, the 2nd longer than the 3rd. Epistoma convex. Pronotum 2·5 mm. broad, 1·3 mm. long, subsemilunar, anterior margin straight, antero-lateral corners obtusely rounded. Posterior margin of mesonotum and metanotum broadly concave. Anterior wing-stumps but little larger than the posterior. Wing 26 mm. long, 6·5 mm. broad; the costal and subcostal nerves thick, umbrinous; the median nerve runs nearer to the submedian than the subcostal, and gives 5 or 6 off-sets in the apical third of the wing; the submedian gives from 12 to 16 off-sets, scarcely any of which are branched. The hind leg reaches to the 8th abdominal segment. The abdominal papillæ are short and separated, and stand on white areas.

Female with the ventral plate of the 7th segment slightly broader in the middle than at the sides. Abdomen grows to a length of 50 mm.; the lateral cuticle is pigment-spotted.

Soldier 6 mm. long. Head 1·5 mm. long, 1 mm. broad, ovate, fulvous. Antennæ of 16 or 17 segments, the 2nd segment long, the 3rd the shortest. Labrum ovate, the apex with bristles, not reaching the middle of the mandibles. Mandibles 1 mm. long, testaceous at the base, castaneous towards the apex, upcurved, the tips incurved, the cutting-margin of both with a distinct tooth beyond the centre. Gula 0·6 mm. broad. Pronotum semilunar, with an anterior, elevated, bilobed portion. The hind legs exceed the abdomen. The abdomen ovoid, white from the milky contents of the large salivary vesicles.

Worker 4 mm. long. Head 1·5 mm. broad, ochraceous. Antennæ of 17 segments, the 2nd long, the 3rd very short. Abdomen with the dorsum arched.

Fungus-growers. Nest with obscure mound.

Hab. Natal. Type, No. 59.

Section with Termes incertus for Type.

Male of moderate size, pale, subisabelline. Antennæ of 16 or 17 segments, the 2nd long, the 3rd short. Fenestra obscure. Epistoma pale, prominent. Pronotum with converging postero-lateral margins. Anterior wing-stumps but little larger than the

posterior. The median nerve runs midway between the subcostal and submedian.

Soldier with short globose head. Antennæ of 14 or 15 segments, the 2nd as long as the 3rd and 4th together. Labrum reaching beyond the middle of the mandibles. Mandibles slender, with pointed incurved tip and toothless cutting-margin. Gula as broad as long, not sunk between the sides of the head. Thorax narrow. Pronotum with raised anterior portion, the lateral corners scarcely depressed. Abdomen ovoid, as broad or broader than the head. Abdominal papillæ present.

Worker with antennæ of 14 or 15 segments, the 2nd segment long. Fenestra absent. Thorax narrow; abdomen ovoid, somewhat broader than the head.

Fungus-growers, building small fungus-beds, generally in the shells of the nests of larger species. The king and queen are not enclosed in a special royal cell.

TERMES INCERTUS, *Hagen*. (Pl. 23. figs. 15-18.)

Male 8 mm. long, pale umbrinous; pronotum and the anterior portions of the mesonotum and metanotum isabelline; epistoma, antennæ, and legs pale. Ocelli distant from the eye by half a diameter. Fenestra obscure. Antennæ of 16 segments, the 2nd long, the 3rd and 4th short. Epistoma prominent. Pronotum .7 mm. long, 1.2 mm. broad, the anterior margin nearly straight, the postero-lateral margins somewhat convex, the posterior margin bilobed. Anterior wing-stumps but little larger than the posterior. Wing 14 mm. long, 3.5 mm. broad, pale umbrinous; the median runs midway between the submedian and subcostal, and bifurcates once or twice beyond the middle of the wing; the submedian gives off about 10 branches, one or two of which may bifurcate. The hind legs do not reach beyond the 6th segment of the abdomen. Abdominal papillæ minute.

Female with the ventral plate of the 7th segment 1 mm. long, 1.7 mm. broad. The abdomen of the queen reaches a length of 16 mm.; the lateral cuticle has minute pigment-spots and hairs.

Soldier 4 mm. long. Head ochraceous, 8 mm. long, 7 mm. broad, ovate, somewhat hairy. Antennæ of 14 segments, the 2nd large, the 3rd and 4th very small, the rest increasing in size towards the apex. Labrum lanceolate, with a few bristles near the tip, reaching $\frac{3}{4}$ of the length of the mandibles. Mandibles .6 mm. long, narrow, slightly upcurved, tip incurved, cutting-margin toothless. Gula nearly as broad as long, not sunk between the sides of the head. Pronotum pale, with raised bilobed

anterior portion; mesonotum narrower than the pronotum. The hind legs not reaching to the end of the abdomen. Abdomen elongate ovoid, coloured at the sides by the contents of the large salivary vesicles. Abdominal papillæ present.

Worker 5 mm. long. Head ochraceous. Antennæ of 14 segments, the 2nd long, the 3rd, 4th, and 5th very short, the rest enlarging towards the apex. Thorax narrow. Abdomen oblong, hind legs not reaching to its apex.

Fungus-growers of small size. The fungus-beds are built in lenticular cavities, generally in the mounds of one of the larger species. King and queen are not enclosed in a special royal cell.

Hab. South Africa (Natal, Mozambique).

TERMES PALLIDUS, n. sp.

Nymph with antennæ of 17 segments.

Queen with chitin isabelline, the head darker. Head ovate; ocelli large, separated from the eyes by nearly a diameter. Fenestra indistinct. Antennæ with the 2nd segment as long as the 3rd and 4th together. Epistoma prominent. Pronotum with nearly straight anterior margin, with rapidly converging postero-lateral margins and short posterior margin. Abdomen 20 mm. long; the lateral cuticle minutely spotted, each spot furnished with a hair.

Soldier 4.5 mm. long. Head 1 mm. long, 1.1 mm. broad, subglobose, ochraceous, somewhat hairy. Antennæ of 15 segments, the 2nd long, the 3rd and 4th short, the rest increasing in size towards the apex. Labrum ovate, with a few bristles at the tip reaching beyond the middle of the mandibles. Mandibles 1.6 mm. long, slender, castaneous towards the apex, with sharply incurved piercing-tip and toothless cutting-margin. Gula as long as long, not sunk between the margins of the head, and attached for less than half its length. Pronotum with semilunar posterior portion, narrow, raised, convex anterior portion. Mesonotum narrower than the pronotum. Hind legs exceeding the apex of the abdomen. Abdomen ovoid. Abdominal papillæ present.

Worker 4.5 mm. long. Head luteous. Antennæ of 15 segments, the 2nd long. Abdomen ovoid. Abdominal papillæ present.

Fungus-growers. The fungus-beds are of small size, generally in the mounds of nests of larger species. The king and queen are not enclosed in a special royal cell.

Hab. Malay Peninsula (Singapore, Malacca). Type, No. 493.

Section with Termes Gestroi for Type.

(This section forms the subgenus *Coptotermes* of Wasmann. It is undoubtedly a good genus.)

Male about 7 mm. long, with head convex in profile. Ocelli approximated to the eyes. Fenestra small. Antennæ of 19 segments, the 2nd large, the 3rd small. Epistoma not prominent. Pronotum large and slightly arched, with concave anterior margin. The anterior wing-stumps much larger than the posterior. Wings very hairy, the median nerve running nearer to the submedian than the subcostal; the median, the subcostal, and their branches faint. Hind legs not reaching to the apex of the abdomen. Abdominal papillæ present.

Soldier about 4 mm. long. Antennæ of 13 to 16 segments, the 2nd segment longer than the 3rd or subequal to it, the others increasing somewhat in size towards the apex. Above the epistoma there is a prominence which terminates abruptly in a large foramen, through which in life a copious viscid white secretion can be discharged. Labrum ovate, with a minute white tip scarcely reaching to the middle of the mandibles. Mandibles with incurved piercing-tip and toothless cutting-margin. Gula firmly united to the head, narrow at the base, broader towards the apex. Pronotum large, flat, slightly lobed, both anteriorly and posteriorly. Abdominal papillæ present.

TERMES GESTROI, *Wasmann*.

Nymph with head convex in profile. Antennæ of 19 segments, the 2nd long, the 3rd short. Pronotum subreniform, but with antero-lateral corners prominent and rather sharply curved.

Soldier 5 mm. long. Head 1.4 mm. long, 1.3 mm. broad, suborbicular, ochroleucous, furnished with long hairs. A broad prominence above the epistoma ends in a large foramen. Antennæ of 14 to 16 segments, the 2nd larger than the 3rd, the others larger towards the apex, subglobose. Labrum lanceolate, tip white, with a few small hairs, reaching nearly to the middle of the mandibles. Mandibles .8 mm. long, castaneous, with incurved piercing-tips and toothless cutting-margin. Gula firmly united to the head, narrow below, rapidly widening towards the apex, the free portion narrower. Pronotum large, 1 mm. broad, the anterior and posterior margins bilobed; mesonotum nearly as broad; metanotum broader. Hind legs exceeding the abdomen. Abdomen oblong, white. Abdominal papillæ rather large.

Worker 5 mm. long. Head cremeous. Antennæ of 15 or 16 segments, the 2nd large, the 3rd small, the others larger towards the apex, subspherical. Hind legs not reaching to the end of the abdomen. Abdomen oblong, white.

This species is remarkable for its habit of killing live trees. It encases the trunk, for a distance of 8 feet from the ground, with a thick crust of earth; under cover of this crust it eats through weak spots in the tree to the heart of the wood, which it excavates, forming there a kind of nest built of wood-fibre.

Hab. Malay Peninsula (Singapore); Borneo (Sarawak); Burmah.

TERMES TRAVIANS, n. sp. (Pl. 23. figs. 19-22.)

Male 7 mm. long, latericious above, fulvous below, epistoma and antennæ pale. Head ovate, convex in profile. Ocelli approximated to the eye. Fenestra small. Antennæ of 19 segments, the 2nd large, the 3rd and 4th small. Epistoma not prominent. Pronotum large, subreniform, but with antero-lateral corners prominent and sharply rounded. Anterior wing-stumps with slightly convex margin, much larger than the posterior, and slightly overlapping them at the base. Wings 10 mm. long, 3 mm. broad, hairy, the median and submedian faint; the median is unbranched, it is three times more distant from the subcostal than the submedian; the submedian gives off about 6 branches. The hind legs do not reach to the end of the abdomen. The ventral plates of the abdomen only three times broader than long. The abdominal papillæ present, small.

Female with the ventral plate of the 7th segment semicircular. The abdomen of the queen reaches a length of 27 mm.; the lateral cuticle with hairs seated on small unpigmented verrucosities; the areas of secondary chitinization large.

Soldier 4 mm. long. Head 1.3 mm. long, 1 mm. broad, ovate, ochraceous. A broad prominence above the epistoma ends in a large foramen. Antennæ of 13 or 14 segments, the 3rd sometimes larger, sometimes smaller than the 2nd, the others increasing somewhat in size towards the apex, subglobose. Labrum sublanceolate, with a few hairs at the tip, not reaching to the middle of the mandibles. Mandibles .6 mm. long, with pointed incurved tip and toothless cutting-margin. Gula firmly united to the head, broadening towards the apex, the free portion narrower. Pronotum large, subreniform, with the antero-lateral

corners rather prominent and sharply rounded. Mesonotum much narrower than the pronotum. Hind legs exceeding the abdomen. Abdomen oblong. Abdominal papillæ present, small.

Worker 4 mm. long. Head pale, often becoming darker in spirit-specimens. Antennæ of about 13 segments; near the base they are indistinct, towards the apex subspherical. Legs not nearly reaching the end of the oblong abdomen.

This species is one of the most destructive to houses in Singapore and Sarawak.

Hab. Malay Peninsula, Borneo. Type, No. 573.

Section with Termes nasutus for Type.

(This section forms the subgenus *Rhinotermes* of Hagen. It is undoubtedly a good genus.)

Male broad in proportion to its length. Antennæ of 20 segments, the 3rd longer than the 2nd. Ocelli separated from the eyes by a diameter or more. Above the level of the ocelli is a minute foramen, from which a shallow groove runs down the epistoma. Epistoma prominent, above uniform with the front surface of the head, below projecting beyond the base of the labrum. Pronotum large, transversely oblong. Anterior wing-stumps much larger than the posterior, the bases of which they overlap. Wings short and broad. The median and submedian broad, but faint; there is an obscure reticulation between their branches. The median is midway between the subcostal and submedian, and branches several times. The hind legs exceed the abdomen. Abdominal papillæ present, but minute.

Soldiers of two very different sizes. The larger with broad subquadrate head. Antennæ of 16 or 17 segments, the 3rd longer than the 2nd. There is a minute foramen above the epistoma, from which a shallow groove runs to the apex of the labrum. Labrum ovate, reaching nearly to the apex of the mandibles. Mandibles large, with piercing incurved tips and large forward-directed teeth on the cutting-margins, two on the left and one on the right side. Pronotum, mesonotum, and metanotum subequal in breadth, flat and projecting slightly beyond the underparts. Hind legs exceeding the abdomen. Abdominal papillæ present, but minute. The smaller soldiers are much more slender than the large ones.

Hagen describes two American species belonging to this section,

T. marginalis and *T. nasutus*. I describe here two new species from Borneo; the males are readily distinguished, but the soldiers and workers seem almost identical. There are specimens of soldiers and workers of other species, but in the absence of the imago it is not right to describe them.

TERMES BREVIALATUS, n. sp.

Female 8 mm. long, testaceous, wing-stumps fuliginous, antennæ pale. Head broadly ovate; in profile the epistoma is seen to project forward in the plane of the front of the head, beyond the base of the labrum, which it overhangs. Ocelli separated from the small eyes by two diameters, and placed on a level with their lower margin. There is a small foramen, from which a shallow groove runs to the end of the epistoma. Antennæ of 20 segments, the 3rd longer than the 2nd, the more distal segments globose. Pronotum .9 mm. long, 1.6 mm. broad, transversely oblong, the postero-lateral corners more rounded than the antero-lateral ones. The posterior margins of the mesonotum and metanotum straight, not lobed. Anterior wing-stumps much larger than the posterior, which they overlap at the base. Wing 8.5 mm. long, 3 mm. broad, fuliginous, nearly glabrous. The costal and subcostal nerves are well defined, the median and submedian with their branches are but broad corrugations of the wing-membrane; there is also an intervening reticulation. The median is midway between the submedian and subcostal, and has 3 or 4 branches, the first of which is about the middle of the wing. The submedian has about 10 branches. The hind legs exceed the abdomen. The abdomen is 2.4 mm. broad. The ventral plate of the 7th segment has its posterior margin very convex. The lateral cuticle of the abdomen hairy.

Soldiers: the larger 6 mm. long, head ochraceous, antennæ, thorax, and abdomen ochroleucous. Head 1.7 mm. long, 1.5 mm. broad, subquadrate. Antennæ of 17 segments, the 3rd subequal to the 2nd, or of 16 segments, the 3rd longer than the 2nd. A minute foramen above the epistoma, from which a groove runs down to the apex of the labrum. Labrum oblong, obtuse, reaching nearly to the middle of the mandibles. Mandibles 1.2 mm. long, the tip piercing, much incurved, especially that of the right side, the cutting-margin with strong forward-pointed teeth, two on the left mandible and one on the right. Gula

firmly united to the head, narrowest at the end of the basal quarter, then broadening. Pronotum .7 mm. long, 1.1 mm. broad, the anterior margin convex, the lateral margins sharply curved, the posterior margin broadly lobed; mesonotum as broad as the pronotum, with rounded lateral margins; metanotum rather broader. Hind legs much exceeding the abdomen, the femora reaching to the 8th abdominal segment. Abdominal papillæ present, small. The smaller soldier 4 mm. long, ochroleucous. Head 1 mm. long, .9 mm. broad, ovate. Antennæ usually of 16 segments, the 3rd longer than the 2nd. A minute foramen above the epistoma, from which a shallow groove leads to the tip of the labrum. Labrum slightly exceeding the mandibles, bilobed at the tip. Mandibles .7 mm. long, slender, tip incurved, margin with small forward-pointing teeth beyond the middle, two on the left and one on the right side. Gula nearly uniformly broad. Pronotum .7 mm. broad.

Worker 5 mm. long; head white, thorax narrow, abdomen oblong. Antennæ of 16 to 17 segments. Hind legs not reaching to the end of the abdomen.

Hab. Borneo (Sarawak). Type, No. 174.

TERMES TRANSLUCENS, n. sp. (Pl. 23. figs. 23-26.)

Male 9 mm. long, testaceous above, below paler, wing-stumps pale fulvous. Head ovate, somewhat less broad than in *T. brevisalatus*. In profile the epistoma is seen to project forward in the plane of the front surface of the head, beyond the base of the labrum, which it overhangs. Ocelli separated by a distance of one diameter from the eyes, which are larger than in *T. brevisalatus*. There is a small median foramen, from which a shallow groove runs to the end of the overhanging epistoma. Antennæ of 20 segments, the 3rd longer than the 2nd. Pronotum 1 mm. long, 1.7 mm. broad, transversely oblong, the postero-lateral corners more rounded than the antero-lateral; mesonotum and metanotum with the posterior borders nearly straight, not lobed. Anterior wing-stumps much larger than the posterior, and covering them at the base. Wing 10 mm. long, 3.5 mm. broad, translucent in water, pale when dry. The costal and subcostal almost colourless; the median, submedian, and their branches are mere corrugations of the wing-membrane; there is an intervening network; the median is midway between the submedian and subcostal, it branches 3 or 4 times, the first branch is beyond the

middle of the wing; the submedian has 10 or 11 branches. Hind legs barely reaching the end of the abdomen. Abdominal papillæ present, small.

Female with the ventral plate of the 7th segment almost semi-lunar, larger than in *T. brevialetus*.

The soldiers and workers I am unable to distinguish from those of *T. brevialetus*, the description of which applies to these also.

This species is destructive to the posts of houses where they enter the ground; the posts are destroyed to a distance of a foot or two above the level of the ground.

Hab. Borneo (Sarawak). Type, No. 299.

Section with Termes æqualis for Type.

Nymphs with antennæ of 16 to 17 segments.

Soldier 3 to 4 mm. long. Head broad, subquadrate, flat. A minute foramen above the epistoma, from which a shallow groove runs to the apex of the labrum. Antennæ of 13 segments, the 3rd longer than the 2nd. Labrum broad, subquadrate, tip white, reaching to the end of the mandibles. Mandibles with very broad base, and narrow piercing inflexed tip; the broad base generally ends in a forward-pointing lanceolate tooth, separated from the inflexed tip by a deep interspace. Pronotum half as broad as the head, flat, with convex anterior margin and semicircular posterior margin. Mesonotum and metanotum nearly equal in breadth to the pronotum. Hind legs reaching much beyond the apex of the abdomen. Abdominal papillæ absent.

Worker from 3 to 4 mm. long. Head ochroleucous. Antennæ of 13 segments. Thorax narrowed. Hind legs not nearly reaching the apex of the abdomen. Abdominal papillæ absent.

TERMES ÆQUALIS, n. sp. (Pl. 24. figs. 27-29.)

Neoteinic queens 11 mm. long. Epistoma rather prominent, but in a plane with the front surface of the head, and not convex. Pale spots representing ocelli on a level with the lower margin of the eyes. Antennæ of 16 or 17 segments, the 2nd and 3rd subequal. Pronotum reniform.

Soldier 3.5 mm. long. Head 1 mm. long, 1 mm. broad, subquadrate, flat, ochraceous; a minute foramen above the epistoma,

from which a shallow groove runs to the apex of the labrum. Antennæ of 13 segments, the 2nd the shortest. Labrum broad, subquadrate, with white tip, reaching to the apex of the mandibles. Mandibles 5 mm. long, with broad base and narrow inflexed piercing-tips; the broad base in both mandibles ends in a lanceolate, forward-pointed tooth, separated from the inflexed tip by a deep interspace; in the left mandible there is a small second tooth at the base of the large tooth; in the right mandible the inflexed tip is thicker than in the left. Gula rather narrow at the base, but broadening in the apical two thirds. Pronotum .6 mm. broad, with convex anterior border, sharply rounded lateral borders, and semicircular posterior border. Mesonotum and metanotum not quite as broad as the pronotum. Posterior femora reach to the 8th abdominal segment. Abdomen narrowly oblong. Abdominal papillæ absent.

Worker 3.5 mm. long. Head ochroleucous. Antennæ of 13 segments, the 2nd and 3rd subequal. Thorax narrowed. Hind legs not nearly reaching to the apex of the abdomen. Abdomen oblong. Abdominal papillæ absent.

Hab. Borneo (Sarawak). Type, No. 295.

No. 392 seems to be identical with this in every respect, except that both workers and soldiers are one-fifth smaller in all their measurements.

TERMES INÆQUALIS, n. sp.

Nymph with antennæ of 16 segments, the 2nd segment long, the 3rd short. Epistoma convex, slightly prominent.

Soldier 4 mm. long. Head 1.4 mm. long, 1.2 mm. broad, subcordate, flat, lateritious in colour. There is a minute foramen above the epistoma, from which a shallow groove runs to the apex of the labrum. Antennæ of 13 segments, the 3rd longer than the 2nd. Labrum broad, subquadrate, with white tip, reaching nearly to the apex of the mandibles. Mandibles .6 mm. long, with broad base and narrow, piercing, inflexed tips; in the left mandible the broad base ends in a large, broadly lanceolate, forward-pointed tooth, which is separated from the inflexed tip by a deep space; in the right mandible the broad base ends abruptly, but is not separated from the inflexed tip by any interspace. Gula narrow, narrowest at the end of the basal third, then broadening. Pronotum .7 mm. broad, with convex anterior margin, sharply rounded lateral margins, and uniformly

rounded posterior margins. Metanotum as broad as the pronotum, mesonotum slightly narrower. Hind femora reaching nearly to the apex of the abdomen. Abdomen oblong. Abdominal papillæ absent.

Worker 4 mm. long. Head ochroleucous. Antennæ of 13 segments, the 2nd long. Thorax narrow. Hind legs not reaching to the end of the abdomen. Abdomen elliptic oblong. Abdominal papillæ absent.

Hab. Borneo (Sarawak). Type, No. 365.

Section with Termes planus for Type.

Male $3\frac{1}{2}$ mm. long, flat. Head subtriangular. Antennæ of 15 segments, the 2nd longer than the 3rd. Epistoma not prominent. Pronotum half as broad as the head, with a median anterior spinous process. Anterior wing-stumps larger than the posterior, but not overlapping them. Wings short, hairy, the median nerve invisible. Abdominal papillæ absent.

Soldier 4 mm. long, flat. Head cordate. Foramen absent. Antennæ of 14 segments, the 2nd longer than the 3rd. Labrum lanceolate, reaching beyond the middle of the mandibles. Mandibles curved, with pointed tip and toothless cutting-margin. Pronotum small, with median anterior spinous process. Abdominal papillæ absent.

TERMES PLANUS, n. sp. (Pl. 24. figs. 30-33.)

Male 3 mm. long, much flattened, castaneous above, fulvous below. Head .8 mm. broad, subtriangular, hairy. Fenestra obscure, situated near the broad vertex. Ocelli one diameter distant from the small eyes. Antennæ of 15 segments, the 2nd longer than the 3rd, the others increasing slightly in size towards the apex. Epistoma not prominent. Pronotum small, half as broad as the head, the anterior border with a median forward-pointing spine, the posterior border uniformly convex. Posterior borders of mesonotum and metanotum straight, scarcely lobed. Anterior wing-stumps larger than the posterior, but not overlapping them. Wing 4.5 mm. long, 1.5 mm. broad, hairy, uliginous, the costal and subcostal nerves well developed; the median nerve is invisible, the submedian is faint, but has 6 or 7 offsets. The hind legs reach the 7th segment of the abdomen. Abdominal papillæ absent.

Queen 6 mm. long, the abdomen much flattened. The lateral cuticle with long hairs but no pigment-spots.

Soldier 4 mm. long. Head 1 mm. long, 1.2 mm. broad, cordate, very flat, ochraceous, hairy. Foramen absent. Antennæ of 14 segments, the 3rd very short, the 2nd longer than the 4th. Labrum lanceolate, acute, reaching nearly to the tip of the mandibles. Mandibles .7 mm. long, tip slightly incurved, the cutting-margin toothless. Gula narrow at the base, broadening considerably towards the apex. Pronotum half as broad as the head, the anterior margin convex with a short median process, the posterior margin uniformly convex. Mesonotum and metanotum broader than the pronotum. Posterior femora much dilated; the hind legs sometimes exceed the abdomen. Abdomen oblong. Abdominal papillæ absent.

Worker 4 mm. long, flattened. Head ochroleucous, subtriangular. Antennæ of 14 segments, the 2nd long. Pronotum small, half as broad as the head. Mesonotum and metanotum broader than the pronotum. Femora dilated. Abdomen elongate.

Hab. Borneo (Sarawak). Type, No. 164.

Section with Termes tenuis for Type.

Imago 5 mm. long, slender, umbrinous above. Head convex in profile. Fenestra obscure. Four obscure pale spots form a curve between the eyes. Antennæ of 15 to 17 segments, the 2nd long, the 3rd very short. Pronotum with shortly bilobed anterior margin, converging lateral margins, and obscurely lobed posterior margin. Anterior wing-stumps larger than the posterior, but not overlapping them. Wings more than 4 times as long as broad; the faint median takes a straight unbranched course to the apex of the wing; the submedian also runs to the apex of the wing. Abdominal papillæ present.

Soldier 4 mm. long; head ochraceous, thorax and abdomen milk-white. Head about 1.3 mm. long, .8 mm. broad, prominent in profile above the level of the antennæ. Antennæ of 13 to 15 segments. Labrum lanceolate acute, reaching to the middle of the mandibles. Mandibles slender, nearly straight, with slightly incurved piercing-tip and toothless cutting-margin. Gula narrow in the lower half, broadening rapidly in the upper half. Pronotum with bilobed anterior margin. Abdominal papillæ present.

TERMES TENUIOR, n. sp. (Pl. 24. figs. 34-37.)

Male 5 mm. long, slender, umbrinous above, pale below, legs and antennæ pale. Head short, ovate, convex in profile. Ocelli approximated to the eyes. Fenestra very obscure. Four obscure pale spots form a curve nearly on a level with the ocelli. Antennæ of 15 segments, the 2nd longer than the 3rd, the others increasing in size towards the apex. Epistoma scarcely prominent. Pronotum with anterior margin slightly bilobed, lateral margins rapidly converging, and posterior margins obscurely lobed. The posterior margins of the mesonotum and metanotum narrow. Anterior wing-stumps much larger than the posterior, but not overlapping them. Wings 6.5 mm. long, 1.6 mm. broad, hairy, avellaneous; the faint median runs midway between the submedian and subcostal, taking a straight unbranched course to the apex of the wing; near the end of the subcostal, the submedian is faint and runs to the apex of the wing, it gives off about 11 branches. The hind legs do not reach the apex of the abdomen. Abdomen slender, hairy. Abdominal papillæ present, but minute.

Female with the ventral plate of the 7th abdominal segment long, with parabolic posterior margin.

Soldier 4 mm. long; mandibles dark, head ochraceous; thorax and abdomen milk-white. Head 1.3 mm. long, .8 mm. broad, in profile prominent above the level of the antennæ. Antennæ of 13 segments, the 2nd sometimes longer, sometimes shorter than the 3rd. Labrum lanceolate acute, reaching to the middle of the mandibles. Mandibles .8 mm. long, narrow, the pointed tip slightly incurved, the cutting-margin toothless. Gula narrow in the basal half, broadening rapidly in the apical half. Pronotum nearly as long as broad, with bilobed anterior margin, converging lateral margins, and slightly lobed posterior margin. Hind legs not reaching to the end of the abdomen. Abdomen rather slender. Abdominal papillæ present.

Worker 3.5 mm. long. Head stramineous. Antennæ of 13 segments, the 2nd long, the 3rd very short. Pronotum subsemilunar. Abdomen fusiform.

Hab. Borneo (Sarawak). Type, No. 418.

TERMES TENUIS, *Hagen*.

Male 5.5 mm. long, slender, isabellinous. Head ovate, in profile prominent between the eyes. Ocelli absent. Fenestra

present, with a pale area above it. Four obscure pale spots form a curve between the eyes. Antennæ of 17 segments, the 2nd longer than the 3rd, which is small. Epistoma not prominent. Pronotum .5 mm. long, .8 mm. broad, with bilobed anterior margin, converging lateral margins, and obscurely lobed posterior margin. Anterior wing-stumps much larger than the posterior, but scarcely overlapping them. Wings 9 mm. long, 2.2 mm. broad, avellaneous, hairy; the median is faint and takes an almost straight course to the apex of the wing, sometimes it bifurcates near the end; the submedian is faint and reaches the margin of the wing a little behind the apex. Hind legs reach nearly to the apex of the abdomen. Abdominal papillæ present, slender.

Female with the ventral plate of the 7th segment semilunar.

Soldier 5 mm. long. Head 1.7 mm. long, 1 mm. broad, ochroleucous, narrowed abruptly just above the level of the antennæ. Antennæ of 15 segments, the 2nd longer than the 3rd, which is short. Labrum ovate, obtuse, reaching to a quarter of the length of the mandibles. Mandibles 1 mm. long, slender, nearly straight, the pointed tips slightly incurved, the cutting-margin toothless, that of the left somewhat serrate at the base. Gula narrow at the base, broadening somewhat towards the apex. Pronotum large, subreniform, the anterior margin bilobed, the posterior margin obscurely lobed. Thorax and abdomen white. Hind legs exceeding the abdomen. Abdominal papillæ slender.

Worker 4.5 mm. long. Head white. Antennæ of 15 segments.

Hab. Brazil; W. Indies; St. Helena.

This species is very destructive to buildings. It is peculiar in having no ocelli. The specimens here described were from Trinidad, collected by Mr. Hart.

Section with Termes dubius for Type.

Male 5 to 6 mm. long, slender. Head ovate. Fenestra absent. Antennæ of 14 segments, the 2nd longer than the 3rd, which is very short. Epistoma convex and prominent. The anterior margin of the pronotum nearly straight and slightly everted. The posterior margins of the mesonotum and metanotum short and more or less concave. The anterior wing-stumps a little larger than the posterior. Wings 6 to 7.5 mm. long, umbrinous, shortly hairy; the faint median runs much

nearer to the submedian than the subcostal, it reaches the apex of the wing, and may have one or two offsets; the submedian is faint and reaches to within an eighth of the apex of the wing, it has from 8 to 12 offsets. The hind legs do not reach the apex of the abdomen. The abdominal papillæ are very minute.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the posterior margin rather prominent near middle, where it may be obscurely bilobed.

Soldier 4 to 6 mm. long. Head subcylindric, about 1.5 mm. long, 1 mm. broad. Antennæ of 13 segments, the 2nd longer than the 3rd. Labrum subovate, entire, not reaching to a third of the mandibles. Mandibles rather slender, more or less curved, especially near the piercing-tips, the cutting-margin more or less minutely serrate. Gula long, rather broader in the apical half. Pronotum small, saddle-shaped. Hind legs reaching to the end of the abdomen. Abdomen coloured by the intestinal contents. Abdominal papillæ minute.

Worker 3.5 to 5 mm. long. Antennæ of 13 segments, the 3rd and 4th very short. Abdomen ovoid, coloured by the intestinal contents.

The nests may be built of wood-fibre on the trunks of trees, or of earthy material on the surface of the ground. These termites are very sluggish in their movements. The species seems to be very numerous and very difficult to distinguish.

TERMES DISTANS, n. sp.

Male 5.5 mm. long. Head and pronotum black, the dorsal plates of the abdomen castaneous, the posterior halves of the mesonotum and metanotum and the lateral ends of the ventral plates of the abdomen fuliginous, the anterior halves of the mesonotum and metanotum, the legs, and the middle of the ventral plates of the abdomen umbrinous. Head ovate, the ocelli separated from the eyes by more than a diameter. Fenestra absent. Antennæ of 14 segments, the 2nd larger than the 3rd, which is very small, the others increasing in size somewhat towards the apex. Epistoma convex and prominent. Pronotum with anterior margin straight, scarcely raised; antero-lateral sharply rounded, not depressed; lateral margins nearly straight, converging; posterior margin obscurely bilobed. Posterior margins of mesonotum and metanotum slightly concave.

Anterior wing-stumps slightly larger than the posterior. Wings 7.4 mm. long, 2 mm. broad, hairy, unbrinous; the very faint median runs nearer the submedian than the subcostal, and reaches the apex of the wing, giving one offset; the faint submedian reaches to an eighth of the apex of the wing and gives eight offsets. The hind legs do not nearly reach the apex of the abdomen. The abdominal papillæ very minute.

Female with the ventral plate of the 7th abdominal segment half as long as broad. The abdomen of the queen reaches a length of 30 mm.; the lateral cuticle has small pigment-spots and hairs.

Soldier 6 mm. long. Head 1.7 mm. long, 1.1 mm. broad, latericius. Antennæ of 13 segments, the 2nd larger than the 3rd, which is small. Labrum ovate, reaching to one third of the mandibles. Mandibles 1 mm. long, slender, curved, especially near the tips, the cutting-margin minutely serrate. Pronotum saddle-shaped, the anterior portion bilobed, raised. Hind legs reaching to the end of the abdomen. Abdomen oblong. Abdominal papillæ minute.

Worker 4.5 mm. long. Head pale or subcastaneous. Antennæ of 13 segments. The abdomen coloured by the intestinal contents.

Hab. Borneo; Sulu Islands; Celebes. Type, No. 578.

TERMES DUBIUS, n. sp. (Pl. 24. figs. 38-41.)

Male 5.5 mm. long, slender, castaneous above, fuliginous below. Head ovate. Ocelli separated from the eyes by less than a diameter. Fenestra absent. Antennæ of 14 segments, the 2nd large, the 3rd very small, the others increasing somewhat towards the apex. Epistoma slightly prominent and convex. Pronotum subsemilunar, the anterior margin nearly straight, slightly everted, the antero-lateral corners rounded, slightly deflexed. The mesonotum and metanotum with the posterior margins short and concave. Front wing-stumps a little larger than the hind ones. Wings 7 mm. long, 2 mm. broad, fuliginous, hairy; the faint median runs nearer the submedian than the subcostal, it reaches the apex of the wing, and gives one or two offsets in the apical quarter; the submedian is faint, it reaches to an eighth from the apex of the wing and gives about 9 offsets. The hind legs do not reach the apex of the abdomen. Abdominal papillæ minute.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the posterior margin obscurely lobed. The

abdomen of the queen reaches 25 mm., the lateral cuticle with minute pigment-spots and hairs.

Soldier 4·5 mm. long. Head ochraceous, 1·4 mm. long, 1 mm. broad. Antennæ of 13 segments, the 2nd longer than the 3rd. Labrum reaching to a fifth of the length of the mandibles. Mandibles 1·1 mm. long, slender, curved through their whole length; the cutting-margin minutely serrate. Gula long, slightly broader in the apical half. Pronotum saddle-shaped, very short. Hind legs reaching to the end of the abdomen. Abdominal papillæ very minute.

Worker 4 mm. long. Head ochroleucous. Antennæ of 13 segments, the 3rd and 4th very short. The abdomen oblong, discoloured by the intestinal contents.

Hab. Borneo. Type, No. 577.

TERMES SERRATUS, n. sp.

Female 5·5 mm. long, slender, castaneous above, fuliginous below, tarsi pale. Head ovate. Eyes and ocelli moderately large, separated by half the diameter of an ocellus. Fenestra absent. Antennæ of 14 segments, the 2nd longer than the 3rd, which is very small, the others subglobose, increasing considerably in size towards the apex. Epistoma slightly convex and prominent. Pronotum with the anterior margin nearly straight, slightly everted, antero-lateral corners scarcely deflexed; lateral margins nearly straight, converging into the distinctly concave posterior margin. Mesonotum and metanotum with the posterior margin short, but deeply concave. Anterior wing-stumps but little larger than the posterior. Wings 7·2 mm. long, 1·8 mm. broad, hairy, pale umbrinous; a stain behind the subcostal; the median rather faint, it runs to the apex of the wing and gives one offset at a quarter from the apex, and a second further on; the submedian, rather faint, gives 11 offsets. Hind legs reach to the 6th segment of the abdomen. Ventral plate of the 7th segment half as long as broad, the posterior margin obscurely lobed towards the middle.

Soldier 4·5 mm. long. Head 1·6 mm. long, 1 mm. broad, ochraceous. Antennæ of 13 segments, the 2nd longer than the 3rd, which is very short. Labrum ovate obtuse, reaching to a third of the length of the mandibles. Mandibles ·8 mm. long, slightly curved, especially towards the tips; the cutting-margin minutely serrate, especially on the left. Gula rather long,

narrow in the basal third, broadening towards the apex. Pronotum small, saddle-shaped; the anterior portion much elevated, the posterior portion short. Hind legs not reaching to the end of the abdomen. Abdominal papillæ very minute.

Worker 3.5 mm. long. Head ochroleucous. Antennæ of 13 segments, the 2nd larger than the 3rd, which is small. Abdomen oblong, coloured by the intestinal contents.

Hab. Borneo. Type, No. 364.

TERMES PARVUS, n. sp.

Male 4.5 mm. long, slender, castaneous above, tarsi pale, ventral plates of abdomen fuliginous at the sides, pale in the middle. Head ovate. Eyes and ocelli small, ocelli separated from the eyes by more than a diameter. Fenestra absent. Antennæ of 14 segments, the 2nd longer than the 3rd, which is short, the others increasing a little in size towards the apex. Epistoma slightly convex and prominent. Pronotum with anterior margin nearly straight, the antero-lateral corners deflexed, lateral margins rounded, converging into the obscurely lobed posterior margin. Mesonotum and metanotum with posterior margins short and nearly straight. Front wing-stumps but little larger than the hind ones. Wing 6 mm. long, 1.6 mm. broad, pale umbrinous; the median nerve is faint, it runs much nearer the submedian than the subcostal, it reaches the apex of the wing and bifurcates a little before the end; the submedian is faint, it reaches to one-eighth from the apex of the wing, and has 9 or 10 offsets. The hind legs reach to the 5th segment of the abdomen. Abdominal papillæ very minute.

Female with the ventral plate of the 7th segment large, semi-circular, with two small posterior lobes. The abdomen of the queen 10 mm. long, rather narrow.

Soldier 4 mm. long. Head 1.3 mm. long, .8 mm. broad, ochraceous. Antennæ of 13 segments, the 2nd longer than the 3rd, which is very short. Labrum ovate obtuse, reaching to one-third of the length of the mandibles. Mandibles .8 mm. long, slender, straight in the basal part, curved towards the tip, cutting-margin minutely serrate. Gula long, a little broader in the apical half. Pronotum saddle-shaped; the anterior portion short. Abdomen oblong, coloured by the intestinal contents. Hind legs not reaching to the end of the abdomen. Abdominal papillæ very minute.

Worker 3.5 mm. long. Head ochroleucous. Antennæ of 13 segments, the 3rd very small. Abdomen oblong, coloured by the intestinal contents.

Nest, on the surface of the ground, of dark earthy material.

Hab. Natal. Type, No. 29.

Section with Termes sulphureus for Type.

Male about 6 mm. long. Head ovate. Fenestra present. Antennæ with the 2nd segment longer than the 3rd. Epistoma convex and prominent. Pronotum with nearly straight anterior margin. Anterior wing-stumps considerably larger than the posterior. Abdominal papillæ very minute.

Female with the ventral plate of the 7th segment not half as long as broad, the lateral cuticle of the abdomen in the queen not pigment-spotted.

Soldier 4.5 mm. long. Head subglobose. Antennæ of 14 segments, the 2nd longer than the 3rd or 4th. Labrum ovate, not reaching to the middle of the mandibles. Mandibles slender, much incurved towards the pointed tips, the cutting-margin with a small transverse tooth about the middle. Gula scarcely twice as long as broad, united to the head near the base only. Pronotum saddle-shaped, short, the anterior portion convex, not bilobed, the lateral angles much depressed. Hind legs not reaching to the end of the abdomen. Abdomen large ovoid, much broader than the head, the dorsum arched, laterally coloured by the contents of the large salivary vesicles. Abdominal papillæ minute.

Worker 4.5 mm. long. Fenestra absent. Antennæ of 14 segments, the 3rd and 4th small. Epistoma convex and prominent. Abdomen coloured by the intestinal contents.

TERMES SULPHUREUS, n. sp. (Pl. 24. figs. 42-44.)

Male 6 mm. long, pale castaneous above, the mesonotum, metanotum, and a moth-shaped mark on the pronotum subisabelline, below pale umbrinous. Head ovate. Ocelli separated from the eyes by less than a diameter. Fenestra present, small. Antennæ with the 2nd segment larger than the 3rd, the 4th larger than the 5th. Epistoma pale, convex, prominent. Pronotum 1 mm. broad, the anterior margin nearly straight, the antero-lateral angles somewhat depressed, the lateral margins converging, convex, the posterior margin obscurely bilobed.

Mesonotum and metanotum with the posterior margins shortly bilobed. Anterior wing-stumps considerably larger than the posterior, but not overlapping them. Hind legs not reaching to the end of the abdomen. Abdominal papillæ very minute.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the posterior margin convex. The abdomen of the queen reaches a length of 30 mm.; secondary chitinization is almost absent; the lateral cuticle smooth, without pigment-spots, and with very short hairs.

Soldier 4.5 mm. long. Head 9 mm. long, 1 mm. broad, subglobose, ochraceous. Antennæ of 14 segments, the 2nd longer than the 3rd or 4th. Labrum ovate, not reaching to the middle of the mandibles. Mandibles .9 mm. long, very slender, much incurved towards the piercing-tip, the cutting-margin with a small transverse tooth near the middle. Gula scarcely twice as long as broad, united to the head near the base only. Pronotum saddle-shaped, short, the lateral angles much depressed, the anterior margin raised, convex, not bilobed. The hind legs do not reach the apex of the abdomen. Abdomen ovoid, large, broader than the head, the dorsum arched, coloured yellow by the contents of the large salivary vesicles. Abdominal papillæ minute.

Worker 4.5 mm. long. Head ochroleucous. Fenestra absent. Antennæ of 14 segments, the 3rd and 4th small. Epistoma convex, prominent. Abdomen oblong, coloured by the intestinal contents.

Nests forming large mounds 4 or 5 feet high.

Hab. Malay Peninsula (Perak), (Selangor), (Malacca). Type, No. 117.

Section with Termes dentatus for Type.

Male 5 to 6 mm. long. Head ovate. Antennæ of 15 segments, the 2nd longer than the 4th, the 3rd variable in length. Epistoma more or less convex and prominent. Pronotum with nearly straight anterior margin, and slightly deflexed anterolateral angles. Wings 8.9 mm. long, the median nearer to the submedian than the subcostal, and reaching to the apex of the wing. Anterior wing-stumps slightly larger than the posterior. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment about half as long as broad.

Soldier 4.5 mm. long. Head ovate. Antennæ of 14 segments, the 2nd longer than the 4th, the 3rd variable in length. Labrum entire, ovate, not reaching to the middle of the mandibles. Mandibles strong, incurved, with piercing-tip, the cutting-margin with or without a strong tooth. Gula broad and short. Pronotum short, saddle-shaped.

Worker 4 mm. long. Head small. Antennæ of 14 segments. Fenestra absent. Epistoma convex and prominent. Thorax narrower than the head. Abdomen large, ovoid, coloured by the intestinal contents.

TERMES MIRABILIS, n. sp.

Male 5.5 mm. long, stout, subisabelline, head and pronotum umbrinous, beneath pale. Head ovate. Ocelli approximated to the eyes, which are large. Fenestra absent. Antennæ of 15 segments, the 3rd subequal to but longer than the 2nd, the 4th shorter than the 2nd. Epistoma scarcely prominent. Pronotum with straight anterior margin, the antero-lateral angles sharply rounded, slightly depressed, the lateral margins converging, convex, the posterior margin bilobed. The posterior margins of the mesonotum and metanotum rather acutely lobed. Anterior wing-stumps a little larger than the posterior. Wings 8.5 mm. long, 2.5 mm. broad, pale umbrinous, hairy; the median runs much nearer the submedian than the subcostal, it reaches the apex of the wing, and gives one offset in the apical fifth of the wing; the submedian reaches to the apical tenth of the wing and gives about 8 offsets. The hind legs reach to the apex of the abdomen. The abdomen broad. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, its posterior portion uniformly rounded. The abdomen of the queen reaches a length of 18 mm., it is much distended; secondary chitinization almost absent; the lateral cuticle of the abdomen without pigment, but with very minute hairs.

Soldier 5.5 mm. long. Head 1.3 mm. broad, ovate, ochroleucous. Antennæ of 14 segments, the 2nd shorter than the 3rd, longer than the 4th. Labrum ovate, short, not reaching to a quarter of the length of the mandibles. Mandibles 1 mm. long, rather broad in the broad part, the piercing-tip sharply incurved, the cutting-margin toothless, but with two or three serrations near the base. Gula ovate, not sunk between the

margins of the head. Pronotum short, saddle-shaped, the convex anterior margin raised, scarcely lobed, the lateral angles not depressed. Hind legs exceeding the abdomen. Abdomen ovoid, as broad as the head, dorsum arched, the intestinal contents dark. Abdominal papillæ absent.

Worker 4 mm. long. Head pale. Antennæ of 14 segments. Fenestra absent. Epistoma convex, prominent. Abdomen dark from intestinal contents.

Hab. Malay Peninsula (Singapore); Borneo (Sarawak), (Mt. Lambir). Type, No. 469.

TERMES DENTATUS, n. sp. (Pl. 24. figs. 45-48.)

Male 6 mm. long, subcastaneous above, mesonotum and metanotum paler, beneath subumbrinous. Head ovate, the ocelli separated from the eyes by half a diameter. Fenestra absent. The antennæ of 14 segments, the 2nd slightly longer than the 4th, but shorter than the 3rd. Epistoma scarcely prominent. Pronotum with straight anterior margin, antero-lateral angles rounded, depressed, the postero-lateral margins converging, the posterior margin broadly lobed. Mesonotum and metanotum with the posterior margins narrow and somewhat acutely lobed. The anterior wing-stumps but little larger than the posterior. Wing 8 mm. long, umbrinous, the subcostal nerve stout; the median runs much nearer the submedian and the subcostal, it reaches the apex of the wing and gives two offsets; the submedian reaches to an eighth of the apex and gives about 7 offsets. The hind legs reach to the 6th abdominal segment. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the posterior margin broadly rounded, with two small pale spots near the middle. In the queen the abdomen reaches a length of 25 mm., it is much distended; secondary chitinization absent, the lateral cuticle with well-marked pigment-spots and short hairs.

Soldier 5 mm. long. Head 1.2 mm. broad, ochraceous, convex in front above the level of the antennæ. Antennæ of 14 segments, the 2nd longer than the 4th, subequal to the 3rd. Labrum ovate, reaching to a third of the mandibles. Mandibles .7 mm. long, strongly incurved, with piercing-tip, the cutting-margin with a narrow transverse tooth about the middle. Gula oblong, nearly twice as long as broad, firmly united to the head.

Thorax narrow. Pronotum saddle-shaped, the anterior portion short, much elevated, convex. The hind legs do not reach to the apex of the abdomen. The abdomen fusiform, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 4.5 mm. long. Head small, pale. Antennæ of 14 segments. Fenestra absent. Epistoma convex, prominent. Abdomen large, coloured by the intestinal contents.

Hab. Borneo (Sarawak), (Marudi). Type, No. 535.

TERMES GLOBOSUS, n. sp.

Male 4.5 mm. long, dark castaneous. Head ovate. Ocelli separated from the eyes by less than a diameter. Fenestra absent. Antennæ of 15 segments, the 3rd very short, the 2nd longer than the 4th or 5th. Epistoma scarcely prominent. Pronotum with the anterior margin straight, slightly raised, the antero-lateral corners scarcely depressed, the posterior margin shortly lobed. Mesonotum and metanotum with the posterior margins nearly straight. Anterior wing-stumps somewhat larger than the posterior. Wings 7.5 mm. long, the subcostal nerve thick; the median runs much nearer the submedian than the subcostal, it reaches the apex of the wing and branches in the apical third; the submedian reaches to a sixth from the apex of the wing and has about 9 offsets. The hind legs reach to the 5th segment of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment quite half as long as broad, the posterior margin obscurely lobed.

Soldier 3.5 mm. long. Head 1 mm. broad, subglobose, fulvous. Antennæ of 14 segments, the 2nd long, the 3rd and 4th very short. Labrum ovate, reaching to a third of the length of the mandibles. Mandibles .8 mm. long, much curved, with sharp piercing-tips, the cutting-margin with a strong barb-like tooth about the middle. Gula very short, scarcely longer than broad. Pronotum saddle-shaped, the anterior lobe raised, not bilobed. Hind legs reaching to the end of the abdomen. Abdomen white, subglobose. Abdominal papillæ absent.

Worker 4 mm. long. Head ochroleucous. Antennæ of 14 segments. Epistoma a little prominent. Abdomen fusiform, coloured by the intestinal contents.

Hab. Borneo (Mt. Lambir). Collected by C. Hose, Esq.

TERMES HASTATUS, n. sp.

Male 5 mm. long, slender, dark castaneous, the head and pronotum almost black, the tarsi and ventral plates of the abdomen pale. Head ovate. Ocelli separated from the small eyes by half a diameter. Fenestra small. Antennæ of 15 segments, the 2nd longer than the 3rd, 4th, or 5th. Epistoma convex and prominent. Pronotum with the anterior margin nearly straight, the antero-lateral corners depressed, the posterior margin not lobed. Mesonotum and metanotum narrow, the posterior margins obtusely lobed. Anterior wing-stumps but little larger than the posterior. Wings 9 mm. long; the median nerve arises from the subcostal even in the anterior of the wing, it runs much nearer the submedian than the subcostal, it is faint, but reaches the apex of the wing and gives two offsets, one in the middle of the wing and one near the apex; the submedian reaches a third from the apex of the wing, and has 5 or 6 offsets. The hind legs do not reach to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad. The abdomen of the queen reaches to a length of 15 mm.; it is not much swollen.

Soldier 4 mm. long. Head 1.3 mm. long, 1.1 mm. broad, ochroleucous. Antennæ of 14 segments, the 2nd longer than the 4th, the 3rd rather variable. Labrum reaching to one third of the length of the mandibles. Mandibles .7 mm. long, much curved, the tips piercing, the cutting-margin with a barb-like tooth about the middle. Gula nearly uniform in breadth, not sunk between the margins of the head. Pronotum saddle-shaped, the anterior portion large, convex, not much elevated. Hind legs slightly exceeding the abdomen. Abdomen ovoid, with the dorsum arched, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 3.5 mm. long. Head ochraceous. Antennæ of 14 segments. Thorax narrow. Abdomen ovoid, with the dorsum arched, coloured by the intestinal contents.

Hab. S. Africa (Cape), (Port Elizabeth). Type, No. 21.

Section with Termes bilobatus for Type.

Male 5 mm. long. Head ovate. Antennæ of 15 segments, the 2nd large, the 3rd small. Epistoma prominent. Pronotum semilunar. Mesonotum and metanotum with the posterior

margins narrow and with small acute lobes. Wing with the median nerve faint, running nearer to the submedian than the subcostal, and branching 3 or 4 times in the apical half of the wing. Abdominal papillæ absent.

Soldier 6 mm. long. Head 1.5 mm. broad, with large median rounded protuberance above the level of the antennæ. Antennæ of 14 (often 15) segments, the 2nd longer than the 3rd. Labrum with two long diverging lobes reaching to a third of the length of the mandibles. Mandibles slender, tapering gradually from the base, moderately curved, the cutting-margin toothless. Pronotum saddle-shaped. Abdomen ovoid acute. Abdominal papillæ absent.

To this section belongs *T. destructor*.

TERMES BILOBATUS, n. sp. (Pl. 24. figs. 49-52.)

Male 5.5 mm. long, stout, dark castaneous, tarsi umbrinous. Head ovate. Eyes prominent. Ocelli separated from the eyes by a diameter. Fenestra present. Antennæ of 15 segments, the 2nd large, the 3rd and 4th small. Epistoma convex and prominent. Pronotum 1 mm. broad, semilunar, the anterior margin slightly concave, the antero-lateral corners rather sharp, slightly depressed. The posterior borders of the mesonotum and metanotum very narrow, shortly but acutely lobed. Anterior wing-stumps subequal to the posterior. Wings 11.5 mm. long; the median, which is faint, runs nearer the submedian than the subcostal; it reaches the apex of the wing and gives off two or three branches in the apical half; the submedian reaches to a third from the apex of the wing and has 8 offsets. The hind legs reach to the apex of the abdomen. The abdominal papillæ are absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the postero-lateral margins meeting in the middle to form a rounded obtuse angle. The abdomen of the queen reaches to 15 mm., and is not much distended.

Soldier 6.5 mm. long. Head 1.5 mm. broad, aurantiaceous, oblong; there is a large median rounded protuberance just above the level of the antennæ. Antennæ of 14 segments, the 2nd somewhat longer than the 3rd or 4th. Labrum with two long diverging lobes which reach to a third of the length of the mandibles. Mandibles 1.5 mm. long, rather slender, and tapering gradually to the tip, curved slightly at the base, but more so towards the apex, the cutting-margin toothless. Gula oblong,

firmly united to the head, but not sunk between its sides. Pronotum short, saddle-shaped, the anterior portion convex, slightly elevated. Hind legs reaching to the apex of the abdomen. Abdomen ovoid, acute, coloured by the intestinal contents. Abdominal papillæ absent.

Workers 4.5 mm. long. Head ochroleucous. Antennæ of 14 segments, the 2nd longer than the 3rd. Fenestra absent. Epistoma prominent. Abdomen elongate ovoid, coloured by the intestinal contents.

Nests on the surface of the ground.

Hab. Natal (Estcourt).

Section with Termes nemorosus for Type.

Male 5 to 7 mm. long. Ocelli rather large. Fenestra present. Antennæ of 14 or 15 segments, the 2nd longer than the 3rd. Pronotum with straight anterior margin. Wings with the median nerve nearer to the submedian than the subcostal. Abdominal papillæ absent.

Soldier 5 to 8 mm. long. Head as large as the thorax and abdomen together. Antennæ of 14 or 15 segments, the same number as in the imago. Labrum small, white, asymmetrical, obscurely bilobed. Mandibles linear, more than half as long as the head, without piercing-tip or cutting-margin, but characteristically bent: the right slightly S-shaped; the left in the basal third is directed inward, the outer margin becoming superior, the middle third is bent sharply outwards, the apical third is again directed forward, and the upper margin again becomes the outer. Gula long, narrow, narrower at the end of the basal third, broader at the apex. Pronotum short, saddle-shaped, with elevated anterior portion. Abdomen quite white. Abdominal papillæ absent.

Worker 4 to 5 mm. long. Head ochroleucous, often becoming fulvous after death. Antennæ of 14 or 15 segments, the same number as in the imago. Thorax narrow. The abdomen elongate, ovate, coloured by the intestinal contents.

The species of this group often build pillar-like nests, either standing erect or leaning against a tree. They are not at all easy to distinguish one from another; perhaps in some cases it will prove impossible to distinguish them excepting by their nests. (See Plate 22.)

TERMES SPECIOSUS, n. sp.

Male 7 mm. long, head and portions of the pronotum castaneous, epistoma, mesonotum, and metanotum and underparts isabellinous, dorsal plates of abdomen fulvous. Head ovate. Ocelli large, separated from the eyes by less than half a diameter. Fenestra present. Antennæ of 15 segments, with the 3rd segment slightly larger than the 2nd. Epistoma scarcely prominent. Pronotum with straight anterior margin, converging postero-lateral margins, and obscurely-lobed posterior margin. Anterior wing-stumps larger the posterior. Hind legs reaching to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the posterior margin rounded. The abdomen of the queen reaches a length of 40 mm.; there is a considerable quantity of secondary chitinization; the lateral cuticle of the abdomen with faintly pigmented tubercles.

Soldier 8 mm. long. Head 3.2 mm. long, 2 mm. broad, auran-tiacous. Antennæ of 14 segments, the 3rd perfectly or imperfectly divided into two; from the 4th to the 10th they are elongate, the four apical segments diminishing in length. The vertical part of the Y-suture deeply coloured. Labrum short, asymmetrical, obscurely lobed. Mandibles linear, much bent: the right is the shorter and the straighter, its lower and outer margin is obtuse, the tip is acute; the left has an obtuse outer and upper margin, and a scissor-like lower and inner margin, the basal third of the mandible is directed inwards, the outer margin becoming gradually the upper, the middle third bends quickly outward, the apical third is directed forward, the outer margin becoming again the upper. Gula long and narrow, broader at the apex. Pronotum short, saddle-shaped, the anterior portion not lobed. Posterior femora reaching to the apex of the abdomen. Abdomen oblong, white. Abdominal papillæ absent.

Worker 5 mm. long. Antennæ of 15 segments. Abdomen large, ovoid, dark from the colour of the intestinal contents.

Hab. Borneo (Sarawak). Type, No. 294.

TERMES NEMOROSUS, n. sp. (Pl. 24. figs. 53-56.)

Male 6 mm. long, fuliginous above, mesonotum and metanotum and the underparts umbrinous. Head ovate. Ocelli separated from the eyes by about a diameter. Fenestra obscure.

Antennæ of 14 or 15 segments, the 3rd longer than the 2nd. Epistoma not prominent. Pronotum with anterior margin straight, antero-lateral corners sharp and somewhat deflexed, posterior margin obscurely bilobed. Posterior margins of the mesonotum and metanotum narrow, rather acutely lobed. Anterior wing-stumps a little larger than the posterior. Hind legs scarcely reaching to the end of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the posterior margin rounded. Abdomen of the queen reaches a length of 22 mm., and is much distended. Lateral cuticle of the abdomen with pigment-spots.

Soldier 5 mm. long. Head ochroleucous, 3 mm. long, 1 mm. broad. Antennæ of 14 segments, the 2nd subequal to the 3rd. Labrum soft, white, $\frac{1}{2}$ mm. long, asymmetrical, slightly lobed, each lobe ending in a soft seta. Mandibles 1.5 mm. long, shaped as in *T. speciosus*. Gula narrowing in the basal third, broadening uniformly in the apical two thirds. Pronotum saddle-shaped, the anterior portion elevated. Hind femora reaching to the apex of the abdomen. Abdominal papillæ absent. Abdomen oblong, white.

Worker 4 mm. long. Head ochroleucous. Antennæ of 14 segments. Thorax narrow. Abdomen elongate ovoid, broader than the head, and dark from intestinal contents.

Hab. Borneo (Sarawak). Type, No. 377.

Section with Termes setiger for Type.

Male 4 to 5 mm. long. Antennæ of 14 segments, the 2nd longer than the 3rd, which is short. Fenestra minute. Epistoma convex. Pronotum with straight anterior margin and bilobed posterior margin.

Soldier 3.5 to 5 mm. long. Head oblong. Antennæ of 14 segments, the 2nd subequal to or longer than the 3rd, the 4th shorter, the 8th segment longest, those beyond getting shorter to the apex. Labrum small, white, with two minute acute diverging lobes. Mandibles as long as or longer than the head, slender, slightly downcurved, without tooth or piercing-tip. Gula narrowed in the basal third, gradually broadening beyond it. Pronotum short, saddle-shaped. Hind legs much exceeding the abdomen. Abdomen white. Abdominal papillæ absent.

TERMES SETIGER, n. sp. (Pl. 25. figs. 57-60.)

Male 4.5 mm. long, fuliginous above, the mesonotum, metanotum, and the underparts pale umbrinous. Head ovate. Ocelli separated from the eyes by less than a diameter. Fenestra minute. A pair of pale spots seated near the inner and lower margin of the ocelli. Antennæ of 14 segments, the 2nd longer than the 3rd. Epistoma convex. Pronotum with straight anterior margin and distinctly lobed posterior margin. The posterior margins of the mesonotum and metanotum narrow, with the appearance of a deep median fissure. Anterior wing-stumps a little larger than the posterior.

Female with the ventral plate of the 7th abdominal segment nearly half as long as broad, the posterior margin rounded, in the middle obscurely lobed. The abdomen of the queen reaches a length of 20 mm.; the lateral cuticle of the abdomen is pigment-spotted.

Soldier 5 mm. long. Head 1.5 mm. long, .8 mm. broad, ochroleucous. Antennæ of 14 segments, the 2nd subequal to the 3rd, the 4th shorter, then lengthening to the 8th, which is nearly twice as long as broad, the others shortening to the apical segment. Labrum small, white, with two minute acute diverging lobes. Mandibles 1.8 mm. long, slender, setiform, at the base directed somewhat upward and inward, then curving somewhat downwards. Gula elongate and narrow, broadening gradually and slightly towards the apex. Pronotum shortly saddle-shaped, with short elevated anterior lobe. Hind legs much exceeding the abdomen. Abdomen white. Abdominal papillæ absent.

Worker 3 mm. long. Head pale. Epistoma convex. Antennæ of 14 segments. Abdomen elongate ovate, the dorsum somewhat arched; coloured by the intestinal contents.

Hab. Borneo (Sarawak), (Marudi). Type, No. 343.

TERMES MINUTUS, n. sp.

Male absent.

Soldier 3.5 mm. long. Head 1 mm. long, 7 mm. broad, ochroleucous. Antennæ of 14 segments, the 2nd longer than the 3rd or 4th, the others increasing to the 8th, which is not quite twice as long as broad. Labrum white, small, with two minute acute diverging lobes. Mandibles 1.2 mm. long, setiform, at the base directed somewhat inward and upward, the left curved slightly

downward. Gula broader towards the apex than at the base. Pronotum short, saddle-shaped, the anterior lobe short, but much elevated. Hind legs much exceeding the abdomen. Abdomen white. Abdominal papillæ absent.

Worker 3 mm. long. Head pale. Antennæ of 14 segments. Epistoma convex. Abdomen oblong, coloured by the intestinal contents.

Hab. Borneo (Sarawak). Type, No. 570.

Section with Termes comis for Type.

Male 5 to 7 mm. long. Ocelli almost in contact with the eyes. Antennæ of 15 segments, the 2nd as long as or longer than the 3rd. Fenestra minute. Epistoma convex. Pronotum with straight anterior margin. Anterior wing-stumps a little larger than the posterior. Posterior margins of the mesonotum and metanotum obtusely lobed. Abdominal papillæ absent.

Soldier 4 to 5 mm. long. Head with a broad pointed horn projecting from the front just above the level of the insertion of the antennæ. Antennæ of 14 segments, the 2nd as long or longer than the 3rd or 4th, the 8th segment not longer than those beyond it. Labrum small, white, with two minute acute diverging lobes. Mandibles setiform. Pronotum saddle-shaped. Hind legs not reaching to the end of the abdomen. Abdomen coloured by the intestinal contents. Abdominal papillæ absent.

TERMES ROSTRATUS, n. sp.

Male 4.5 mm. long, latericious above, pale umbrinous below. Head ovate. Ocelli nearly in contact with the eyes. Fenestra narrow. Antennæ of 15 segments, the 3rd very short, the 4th subequal to the 2nd. Epistoma convex. Pronotum semilunar, with nearly straight anterior margin and rounded antero-lateral corners. The posterior margins of mesonotum and metanotum distinctly lobed. The anterior wing-stumps slightly larger than the posterior. Wing 5.5 mm. long; the median nerve runs nearer the submedian than the subcostal, and reaches the apex of the wing; the submedian reaches the apex of the wing and gives about 9 offsets. The chitinous plates are separated by cuticle even in the imago. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment nearly half as long as broad, the middle of the posterior margin

bilobed. The abdomen of the queen reaches a length of 15 mm.; the lateral cuticle presents faintly pigmented tubercles.

Soldier 4 mm. long. Head 1.1 mm. long, .7 mm. broad, ochroleucous; there is an anterior horn projecting about .5 mm. from the head with the lower margin convex. Antennæ of 14 segments, the 2nd longer than the 3rd or 4th, the others lengthening somewhat to the apex. Labrum small, white, curved upwards towards the horn, with two diverging bristles. Mandibles 1 mm. long, setiform, curved considerably downwards. Gula about twice as long as broad, broadening gradually upwards. Pronotum saddle-shaped, the anterior lobe rather large, not much elevated. Hind legs not reaching to the end of the abdomen. Abdomen fusiform, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 3.5 mm. long. Head small, pale. Antennæ of 14 segments. Epistoma prominent. Abdomen coloured by the intestinal contents.

Hab. Borneo (Sarawak); Malay Peninsula (Singapore), (Perak). Type, No. 477.

TERMES COMIS, n. sp. (Pl. 25. figs. 61-64.)

Male 4 mm. long, isabelline, paler below, the head darker. Head ovate. Ocelli almost in contact with the large eyes. Fenestra minute. Antennæ of 15 segments, the 3rd short, the 2nd subequal to the 4th. Epistoma convex. Pronotum with straight anterior margin, rounded antero-lateral corners, converging postero-lateral margins, and short posterior margin. Posterior margins of the mesonotum and metanotum rather broad, but very slightly lobed. Anterior wing-stumps but little larger than the posterior. Wings 6.5 mm. long, isabellinous; the median is nearer to the submedian than the subcostal, and takes a straight unbranched course to the apex of the wing; the submedian reaches nearly to the apex of the wing and gives 12 to 14 offsets. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the posterior margin convex. Abdomen of the queen reaching to a length of 18 mm.; the lateral cuticle with obscure faintly pigmented tubercles.

Soldier 5 mm. long. Head 1.5 mm. long, .9 mm. broad, ochroleucous; there is an anterior horn projecting about .5 mm. from the front of the head; its lower margin is slightly convex.

Antennæ of 14 segments, the 2nd slightly longer than the 3rd or 4th. Labrum small, white, upcurved towards the horn, with two minute, acute, diverging lobes. Mandibles 1·3 mm. long, setiform, at the base directed slightly upwards, then curved somewhat downwards. Gula twice as broad at the apex as the base. Pronotum saddle-shaped, the anterior lobe prominent and saddle-shaped. Hind legs reaching nearly to the apex of the abdomen. Abdomen elongate ovate, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 3·5 mm. long. Head small, pale. Antennæ of 14 segments. Abdomen elongate ovate, black from intestinal contents.

Hab. Borneo (Sarawak); Malay Peninsula (Singapore). Type, No. 305.

The nest of this species is almost always in association with that of *Termes umbrinus*, which it surrounds.

TERMES LATICORNIS.

Soldier 6 mm. long. Head 1·8 mm. long, 1·3 mm. broad, aurantiacous. The anterior horn is short and acute on a broad base. Antennæ of 14 segments, the 2nd longer than the 3rd, the 3rd longer than the 4th, those beyond the 4th subequal. Labrum small, white, with minute, diverging, acute lobes. Mandibles 1·8 mm. long, setiform, at the base directed slightly upwards, then curved somewhat downwards. Gula narrow below, nearly twice as broad towards the apex. Pronotum saddle-shaped. Hind legs reaching nearly to the apex of the abdomen. Abdomen elongate ovate, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 4 mm. long. Head ochroleucous. Antennæ of 14 segments. Epistoma convex. Abdomen rather large, elongate ovate.

Hab. Borneo (Sarawak). Type, No. 231.

TERMES BREVICORNIS, n. sp.

Male 5 mm. long, head castaneous, thorax and abdomen sublatericious above, isabelline beneath. Ocelli almost in contact with the eyes. Fenestra narrow. Antennæ with the 2nd, 3rd, and 4th segments subequal. Epistoma somewhat convex and prominent. Pronotum with the anterior margin slightly concave, the antero-lateral corners obtusely rounded, the posterior margin scarcely lobed. Mesonotum and metanotum with the

posterior margin broadly lobed. Anterior wing-stumps larger than the posterior. Hind legs reaching nearly to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment nearly half as long as broad. The abdomen of the queen 15 mm. long, with plates of secondary chitinization, the lateral cuticle with small and scattered pigment-spots.

Soldier 5 mm. long. Head ochroleucous, 1.5 mm. long, 1 mm. broad; the anterior horn very short and obtuse, the head appearing to be subtruncate at the level of the insertion of the antennæ. Antennæ of 14 segments, the 2nd subequal to the 3rd, the 4th shorter, those beyond the 5th subequal in length. Labrum small, pale, slightly upcurved, with two minute, acute, diverging lobes. Mandibles 1.6 mm. long, setiform, at the base directed slightly upwards, then curving downwards. Gula not very narrow at the base, nearly twice as broad towards the apex. Pronotum saddle-shaped, the convex anterior lobe much elevated. Hind legs reaching nearly to the apex of the abdomen. Abdomen elongate ovate, spindle-shaped, coloured by the intestinal contents. Abdominal papillæ absent.

Worker 4 mm. long. Head white, antennæ of 14 segments. Epistoma convex. Abdomen elongate, ovoid, dark from intestinal contents.

Hab. Borneo (Sarawak). Type, No. 458.

Section with Termes foraminifer for Type.

Male 5 mm. long. Ocelli approximated to the eyes. Fenestra narrow. Antennæ of 15 segments, the 2nd longer than the 3rd, which is very short. Epistoma convex. Pronotum with straight anterior margin, the posterior margin slightly lobed. Mesonotum and metanotum with the posterior margins obtusely lobed. Abdominal papillæ absent.

Soldier 4 mm. long. Head without horn, but with minute foramen. Antennæ of 13 segments, the 2nd subequal to the 3rd, the 4th longer, those beyond subequal to the 4th. Labrum small, white, with minute, acute, diverging lobes. Mandibles longer than the head, flat, linear, bent, the left more so than the right. Gula uniformly broad. Pronotum short, saddle-shaped. Abdomen coloured by the intestinal contents. Abdominal papillæ absent.

TERMES FORAMINIFER. (Pl. 25. figs. 65-68.)

Male 5 mm. long, slender, fuliginous, legs and antennæ paler. Head ovate. Ocelli approximated to the eyes. Fenestra narrow, obscure. Antennæ of 15 segments, the 3rd very short. Epistoma convex. Pronotum with anterior margin nearly straight, posterior margin lobed. Anterior wing-stumps a little larger than the posterior. Wings 6.5 mm. long, hairy; the median runs very close to the submedian, it reaches the apex of the wing, and gives two or three offsets; the submedian gives 6 or 7 offsets. The hind legs do not reach the apex of the abdomen. The abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad. The lateral cuticle of the abdomen has small scattered pigment-spots.

Soldier 4 mm. long. Head 1.2 mm. long, 1 mm. broad, ochroleucous, with a minute median foramen a little above the level of the base of the antennæ. Antennæ of 13 segments, the 2nd and 3rd subequal in length, the 4th longer, those beyond subequal to the 4th. Labrum small, white, with minute acute diverging lobes. Mandibles 1.3 mm. long, flat, linear, bent, the left more so than the right, being arched in the basal half. Gula oblong, uniformly broad. Pronotum saddle-shaped, the anterior lobe short, but much elevated. Hind legs exceeding the abdomen. Abdominal papillæ absent.

Worker 3.5 mm. long. Head pale. Antennæ of 13 segments. Epistoma convex. Abdomen ovoid, dark from intestinal contents.

Hab. Malay Peninsula (Perak); Borneo (Sarawak). Type, No. 114.

Section with Termes atripennis for Type.

Male 5 to 10 mm. long. Antennæ of 15 to 17 segments. Epistoma convex and prominent. Anterior wing-stumps a little larger than the posterior. Wings with the median nerve much nearer to the submedian than the subcostal. Abdominal papillæ absent.

Soldier 3 to 5 mm. long. Head subaurantiaceous. Rostrum stout. Antennæ of 14 segments, the sixth ovate. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, but much elevated. Hind femora reaching to the 7th segment of the abdomen. Abdominal papillæ absent.

TERMES TRINERVIUS, *Rambur.*

Male 10 mm. long, subtestaceous, the head and parts of the dorsal plates of the abdomen castaneous. Head ovate. Ocelli large, separated from the eyes by a diameter. Fenestra narrow. Antennæ of 17 segments, the 3rd slightly longer than the 2nd or 4th. Epistoma prominent and convex. Pronotum 2 mm. broad, large, hairy, the anterior margin straight, somewhat raised, the posterior margin slightly lobed. Mesonotum and metanotum with broad concave posterior border. Anterior wing-stumps slightly larger than the posterior. Wing 20 mm. long; a broad yellow stain runs along the posterior border of the subcostal nerve; the slender median runs near and parallel to the submedian, and bifurcates once or twice in the apical quarter of the wing; the slender submedian gives about 11 offsets and reaches to an eighth from the apex of the wing. Abdominal papillæ absent.

Female with the 7th segment of the abdomen not half as long as broad, the posterior margin convex. Abdomen of queen reaches a length of 15 mm. Secondary chitinization scanty, the lateral cuticle of the abdomen hairy, the pigment-spots minute.

Soldier of two sizes, the larger 4 mm. long. Head 1.5 mm. broad, subaurantiaceous. Antennæ of 14 (sometimes 13) segments, the 3rd longer than the 2nd. Rostrum stout. Mandibles rudimentary. Gula scarcely half as long as broad. Pronotum saddle-shaped, the anterior portion much elevated, very short. Posterior femora reaching to the 7th segment of the abdomen. Abdomen large ovoid, the dorsum arched. The smaller soldiers 3 mm. long. Head .8 mm. broad.

Worker 5 mm. long. Head more or less castaneous. Antennæ of 15 segments. Epistoma very convex and prominent. Abdomen large ovoid. Hind legs exceeding the abdomen.

Nests forming rounded mounds on the surface of the ground; the cells beneath the outer shell are stuffed with bits of grass.

Hab. Africa.

TERMES CONSTRICTUS, n. sp.

Male 5 mm. long; head and thorax lateritious, abdomen castaneous, legs ochroleucous. Head ovate. Ocelli large, separated from the eyes by a diameter. Fenestra diffuse. Antennæ of 15 segments. Epistoma scarcely prominent. Pronotum 1.2 mm.

broad, subsemilunar, the anterior margin slightly concave, the antero-lateral corners rounded. Mesonotum and metanotum with the posterior margins broad, concave. Hind legs much exceeding the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th segment half as long as broad. In the queen the abdomen reaches a length of 19 mm. Secondary chitinization extensive; lateral cuticle with numerous pigment-spots and hairs.

Soldier 4 mm. long. Head .8 mm. broad, fulvous. Antennæ of 14 segments, the 3rd shorter than the 2nd, the 6th ovate. Rostrum shorter than the head. Mandibles rudimentary. Gula nearly as long as broad. Anterior elevated portion of pronotum very short. Posterior femora reaching to the 7th segment of the abdomen. Abdomen ovoid, the dorsum somewhat arched. Abdominal papillæ absent.

Worker 4.5 mm. long. Head subcastaneous. Antennæ of 15 segments. Hind legs exceeding the abdomen. Abdomen ovoid.

Nest terrestrial.

Hab. Borneo (Sarawak). Type, No. 292.

TERMES FUSCIPENNIS, n. sp. (Pl. 25. figs. 69-72.)

Male 8 mm. long, castaneous, abdomen beneath umbrinous, legs subisabelline. Head ovate. Ocelli not large, separated from the eyes by twice their diameter. Fenestra minute. Antennæ of 15 segments, the 3rd somewhat longer than the 2nd. Epistoma slightly prominent and convex. Pronotum 1.5 mm. broad, subtriangular, the angles rounded. Mesonotum and metanotum with posterior margins broad, slightly concave. Wing 13.5 mm. long, fuliginous; the subcostal very broad and with a yellow stain along its posterior border; the median nerve runs near and parallel to the submedian, it reaches the apex of the wing and gives 4 offsets in the apical third; the submedian reaches to a quarter from the apex of the wing and has 10 offsets. Hind legs reach to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment fully half as long as broad, subtriangular, with the lateral angles rounded. The abdomen of the queen reaches a length of 16 mm. or more; the lateral cuticle with numerous minute pigment-spots and hairs.

Soldier 4.5 mm. long, slender. Head 1.2 mm. broad, red-testaceous. Antennæ with the 3rd segment longer than the 2nd, the 6th ovate. Rostrum conical. Mandibles rudimentary. Gula half as long as broad. Pronotum saddle-shaped, the elevated anterior portion very short. Posterior femora reaching to the 7th abdominal segment. Abdomen oblong, the dorsal surface somewhat arched. Abdominal papillæ absent.

Worker 4.5 mm. long. Head testaceous. Antennæ of 15 segments. Hind legs reaching nearly to the apex of the abdomen. Abdomen ovoid, the dorsum arched.

The spirit in which these specimens were first placed became coloured red. The nest was on the trunk of a live tree.

Hab. Borneo (Sarawak). Type, No. 446.

TERMES ATRIPENNIS, n. sp.

Male 9 mm. long, fuliginous, mesonotum, metanotum, and the parts below umbrinous. Head ovate. Ocelli separated from the eyes by a diameter. Fenestra as large and distinct as an ocellus. Antennæ of 15 segments, the 3rd but little larger than the 2nd. Epistoma but slightly convex and prominent. Pronotum 1.5 mm. broad, subtriangular, the angles rounded. Mesonotum and metanotum with the posterior margins broad and markedly concave. Wings 22 mm. long, fuliginous; the subcostal nerve broad; the median runs near and parallel to the submedian, it is slender, reaches the apex of the wing, and gives several branches in the apical half; the submedian gives 8 offsets and reaches to a third from the apex of the wing.

Female with the ventral plate of the 7th segment half as long as broad. The abdomen of the queen reaches to a length of 18 mm.; secondary chitinization is well marked; the lateral cuticle of the abdomen has numerous small pigment-spots and hairs.

Soldier 5.5 mm. long. Head 1.5 mm. broad, fulvous. Antennæ of 14 segments, the 2nd and 3rd subequal, much smaller than the 4th, the 6th ovate. Rostrum large, conical. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior elevated portion very short. Pronotum, mesonotum, and metanotum fulvous, the dorsal plates of the abdomen fuliginous, arched. Posterior femora reach to the 7th segment of the abdomen. Abdominal papillæ absent.

Worker 6 mm. long. Head subcastaneous, the dorsal plates of the abdomen fuliginous. Antennæ of 15 segments. Λ -suture well marked. Epistoma scarcely prominent. Abdomen large, with the dorsum much arched.

Hab. Borneo (Sarawak). Type, No. 427.

TERMES OVIPENNIS, n. sp.

Male 7 mm. long, above castaneous, the mesonotum and metanotum testaceous, below umbrinous. Head ovate. Ocelli large, distant, 1 diameter from the eyes. Fenestra small, round. Antennæ of 15 segments, the 2nd and 3rd subequal. Epistoma scarcely prominent. Pronotum 1.2 mm. broad; the anterior margin slightly concave, antero-lateral angles rounded, depressed, postero-lateral margins straight, converging; the posterior margin lobed. Mesonotum and metanotum with the posterior margins lobed, the lobes obtusely pointed. Wings 11.5 mm. long, fuliginous; the subcostal nerve rather broad and with a yellow stain along its posterior border; the median runs much nearer the submedian than the subcostal, it reaches the apex of the wing, near to which it gives an offset; the submedian reaches to about a tenth of the apex of the wing and gives about 10 offsets. The hind legs reach to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th segment of the abdomen not half as long as broad, the posterior margin concave towards the sides, convex in the middle.

Soldier 4 mm. long. Head 1 mm. broad, ochraceous. Antennæ of 14 segments, the 3rd a little longer than the 2nd. Rostrum somewhat slender. Mandible rudimentary. Gula as long as broad. Pronotum saddle-shaped, very short. Posterior femora reaching to the 7th abdominal segment. Abdomen elongate ovate, the plates but little chitinized. Abdominal papillæ absent.

Worker 4 mm. long. Head ochroleucous. Antennæ of 14 segments.

Hab. Borneo (Sarawak). Type, No. 348.

Section with Termes regularis for Type.

Male with antennæ of 14 segments.

Soldier 3 to 4 mm. long. Head 1 mm. broad or less, ochraceous. Antennæ of 12 or 13 segments. Rostrum slender. Mandible

rudimentary. Gula as long as broad. Pronotum saddle-shaped, the anterior lobe much elevated, but very short. Abdominal papillæ absent.

TERMES REGULARIS, n. sp. (Pl. 25. figs. 73-75.)

Male 6.5 mm. long, dark castaneous above, umbrinous beneath. Head ovate, hairy. Ocelli distant one diameter from the eye. Fenestra very minute. Antennæ of 14 segments, the 3rd very short. Epistoma scarcely convex. Pronotum 1.2 mm. broad, subsemilunar, the antero-lateral angles rounded, slightly depressed. Mesonotum and metanotum with the posterior margins slightly notched. Wings 8.5 mm. long, fuliginous; the subcostal nerve broad; the median fine, running nearer to the submedian than the subcostal, reaches the apex of the wing and gives two or three branches; the submedian reaches to about a tenth from the apex of the wing and has about 10 offsets. Hind legs not reaching to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the posterior margin uniformly rounded.

Soldier 4 mm. long. Head 1 mm. broad, ochraceous. Antennæ of 13 segments, the 2nd longer than the 3rd, the 3rd longer than the 4th. Rostrum slender. Mandibles rudimentary. Gula as long as broad. Pronotum saddle-shaped, the anterior portion short, but much elevated. Hind legs exceeding the abdomen. Abdomen elongate, ovoid. Abdominal papillæ absent.

Worker 6 mm. long. Head ochroleucous. Antennæ of 13 segments. Abdomen large, ovoid.

Hab. Borneo (Sarawak). Type, No. 279.

TERMES INANIS, n. sp.

Nymph with antennæ of 14 or 15 segments.

Soldier 3.5 mm. long. Head 8 mm. broad, ochroleucous. Antennæ of 12 segments, the 2nd longer than the 3rd. Rostrum slender, nearly as long as the head. Mandibles rudimentary. Gula nearly as long as broad. Pronotum saddle-shaped, the anterior lobe short, much elevated. Abdomen ovoid, the dorsum much arched, especially at the base.

Worker 4 mm. long. Head ochroleucous. Antennæ of 13 segments. Abdomen ovoid, the dorsum much arched.

Hab. Malay Peninsula (Perak). Type, No. 121.

TERMES ACICULATUS.

Nymph with 14 segments to the antennæ.

Soldier 3.5 mm. long, slender. Head 8 mm. broad, ochroleucous. Antennæ of 12 segments, the 3rd shorter than the 2nd. Rostrum slender, much shorter than the head. Mandibles rudimentary. Gula nearly as long as broad. Pronotum saddle-shaped, the anterior lobe elevated, but very short. Hind legs not reaching the apex of the abdomen. Abdomen oblong. Abdominal papillæ absent.

Worker 4 mm. long, slender. Head ochroleucous. Antennæ of 14 segments. Abdomen oblong.

Hab. Borneo (Sarawak). *Type*, No. 447.

Section with Termes singaporiensis for Type.

Male 6 to 8 mm. long. Eyes and ocelli large, approximated. Fenestra present. Antennæ of 15 segments, the 3rd slightly longer than the 2nd. The wings umbrinous; the median nerve near and parallel to the submedian. Abdominal papillæ absent.

Soldier 3 mm. long. Head fulvous. Antennæ of 12 to 13 segments, the 3rd longer than the 2nd or 4th, the 6th ovate. Rostrum short, conical. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, but elevated. Hind legs reaching to the 7th abdominal segment. Abdominal papillæ absent.

Most of the species of this section build spherical nests raised on bushes a few feet from the ground. The exterior of the nest is a paper-like cover resembling bark in external appearance, but very fragile. Inside this comes the nest proper; it has a hard outer shell full of intercommunicating cells, and a soft centre portion of weak material. The king and queen are found in the hard outer portion, the young larvæ in the soft inner portion.

TERMES BORNEENSIS, n. sp.

Male 7 mm. long, fuliginous, head castaneous, the anterior portions of the mesonotum and metanotum, the antennæ, and the legs ochroleucous. Head ovate. Ocelli separated from the eyes by nearly a diameter. Fenestra rather obscure. Antennæ of 15 segments, the 3rd subequal to the 2nd. Epistoma not prominent. Pronotum 1 mm. broad, the anterior margin straight. The posterior margins of the mesonotum and meta-

notum with two broad obtusely angled lobes. Anterior wing-stumps but slightly larger than the posterior. Wings 9 mm. long by 2.5 mm. broad, fuliginous; the median runs nearer the submedian than the subcostal and gives two or three offsets in the apical quarter of the wing; the submedian reaches to a fifth from the apex of the wing and has 8 offsets. The hind legs reach to the apex of the abdomen.

Soldier 3 mm. long, slender. Head .5 mm. broad, fulvous. Antennæ of 13 segments, the 3rd longer than the 2nd, the 2nd longer than the 4th. Rostrum conical; viewed from in front there is a marked swelling at the junction of the rostrum and the head. Mandibles rudimentary. Gula scarcely as long as broad. Pronotum very short. Posterior femora reaching to the 6th segment of the abdomen. Abdomen elongate ovate. Abdominal papillæ absent.

Worker 3 mm. long. Head subcastaneous. Antennæ of 14 segments. Abdomen ovate, the dorsum arched.

Hab. Borneo (Sarawak). Type, No. 272.

TERMES MATANGENSIS, n. sp.

Male 8 mm. long; head subcastaneous, abdomen fulvous, thorax, legs, and antennæ ochraceous. Head ovate. Eyes and ocelli very large, approximated. Fenestra obscure. Antennæ of 15 segments, the 3rd but little longer than the 2nd. Epistoma scarcely prominent. Pronotum 1.6 mm. broad, subreniform, the antero-lateral corners depressed, the posterior margin bilobed. Mesonotum and metanotum with the posterior margins broad and slightly concave. The anterior wing-stumps but little larger than the posterior. Wings 14 mm. long, 3.5 mm. broad, isabelline; subcostal broad; the slender median runs near the submedian and parallel to it, and reaches the apex of the wing, being either branched or unbranched, occasionally there are several anterior offsets; the slender submedian reaches nearly to the apex of the wing and has 13 offsets. The hind legs reach to the apex of the abdomen. The abdominal papillæ are absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad. The abdomen of the queen reaches a length of 18 mm.; there is some secondary chitinization; the lateral cuticle of the abdomen has numerous minute pigment-spots and hairs.

Soldier 4.5 mm. long. Head 1.5 mm. broad, fulvous. Antennæ of 13 segments, the 3rd longer than the 2nd, the 2nd longer than the 4th, the 6th ovate. Rostrum stout, conical. Mandibles rudimentary. Gula nearly as long as broad. Pronotum saddle-shaped, short; the anterior lobe short, much elevated. Posterior femora reaching to the 7th abdominal segment. Abdomen ovoid, the dorsum arched. Abdominal papillæ absent.

Worker 5.5 mm. long. Head castaneous. Antennæ of 14 segments. Abdomen large, ovoid, the dorsum arched.

Hab. Borneo (Sarawak). Types, Nos. 358, 359, 360.

TERMES LATIFRONS, n. sp.

Male 6 mm. long. Thorax and abdomen subumbrinous above, beneath paler. Head ovate. Ocelli large, approximated to the eyes. Fenestra small. Antennæ of 15 segments, the 3rd shorter than either 2nd or 4th. Pronotum 1.2 mm. broad, the anterior margin nearly straight, the antero-lateral angles depressed, the postero-lateral margins straight, converging. Mesonotum with the posterior margin broad, slightly concave. Metanotum with posterior margin rather short. Anterior wing-stumps but little larger than the posterior. Wings 10.5 mm. long, umbrinous, the costal nerve and a broad stain behind it ochroleucous; the median nerve runs nearer the submedian than the subcostal, and reaches the apex of the wing, shortly before which it may bifurcate; the submedian reaches to a tenth from the apex of the wing and has 9 offsets. Hind legs slightly exceeding the abdomen. Abdominal papillæ absent.

Soldier 3 mm. long. Head 1 mm. broad, fuscous. Antennæ of 13 (sometimes 12) segments. Rostrum stout, conical, its anterior surface in a plane with the front surface of the head. Mandibles rudimentary. Gula not so long as broad. Pronotum short, saddle-shaped; the anterior lobe short, somewhat elevated. Posterior femora reaching to the 8th abdominal segment. Abdomen ovoid, the dorsum arched. Abdominal papillæ absent.

Worker 4 mm. long. Head castaneous. Antennæ of 14 segments. Hind legs exceeding the abdomen. Abdomen ovoid, the dorsum arched.

Nest on the trunks of trees.

Hab. Borneo (Sarawak). Type, No. 127.

This species does not build spherical nests. The soldiers are at once distinguished from those of the following species by the stoutness of the conical rostrum.

TERMES SARAWAKENSIS, n. sp.

Male 7 mm. long. Head dark castaneous; legs and thorax subisabelline; abdomen fuliginous above, umbrinous below. Head ovate. Eyes and ocelli large, approximated. Fenestra large, elongate. Antennæ of 15 segments. Epistoma slightly prominent. Pronotum with the anterior margin straight, in the middle elevated, the antero-lateral corners depressed, the postero-lateral margins slightly convex, converging. Mesonotum with the posterior margin broad, concave. Metanotum with the posterior margin narrower. Anterior wing-stumps markedly larger than the posterior. Wings 12 mm. long, umbrinous, a yellow stain running behind the subcostal nerve; the median nerve runs nearer the submedian than the subcostal, it becomes fainter towards the apex, and disappears before reaching the apex of the wing; the submedian has 9 offsets, it reaches to a tenth from the apex of the wing, but becomes very faint towards its apex. Hind legs reaching to the 8th abdominal segment. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the postero-lateral margins nearly straight. The abdomen of the queen reaches a length of 18 mm.; there are distinct plates of secondary chitinization; the lateral cuticle presents minute pigment-spots and hairs.

Soldier 3 mm. long. Head .8 mm. broad, fulvous. Antennæ of 13 segments, the 3rd much longer than the 2nd or 4th. Rostrum conical, somewhat stout, its anterior surface not quite in a plane with the anterior surface of the head. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, elevated. Posterior femora reach to the 8th segment of the abdomen. Abdomen ovoid, the dorsal plates arched, fuliginous. Abdominal papillæ absent.

Worker 4 mm. long. Head castaneous. Antennæ of 14 segments. Abdomen large, ovoid, the dorsal surface arched.

Nests spherical, built on the stems of shrubs and placed a few feet from the surface of the ground.

Borneo (Sarawak). Type, No. 265.

TERMES SINGAPORIENSIS, n. sp. (Pl. 25. figs. 76-79.)

Male 7 mm. long. Head castaneous; thorax and legs isabelline; abdomen fuliginous above, umbrinous below. Head ovate. Eyes and ocelli large, approximated. Fenestra elongate.

Epistoma slightly convex. Pronotum with the anterior margin nearly straight, the antero-lateral angles scarcely deflexed, the postero-lateral margins nearly straight. Mesonotum with the posterior margin rather broad and concave. Metanotum with the posterior margin narrower. The anterior wing-stumps considerably larger than the posterior. Wings 12 mm. long, umbrinous; there is a yellow stain along the posterior border of the subcostal; the median runs nearer the submedian than the subcostal, it becomes very faint but reaches the apex of the wing, it may bifurcate in the apical quarter of the wing; the submedian gives 8 offsets, it becomes very fine but reaches to a ninth from the apex of the wing. The hind legs exceed the abdomen. The abdominal papillæ are absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the postero-lateral margins rounded. The abdomen with plates of secondary chitinization, with hairs and faint pigment-spots.

Soldier 3 mm. long. Head .7 mm. broad, fulvous. Antennæ of 12 segments, the 3rd longer than the 2nd, shorter than the 4th (seldom of 13 segments, the 4th shorter than the 3rd). Rostrum conical, the anterior surface nearly in a plane with the anterior surface of the head; there is at the junction of head and rostrum a distinct swelling best seen from in front. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, elevated. Posterior femora reach to the 7th segment of the abdomen. Abdomen ovoid, the dorsal plates arched, umbrinous. Abdominal papillæ absent.

Worker 4 mm. long. Head castaneous. Antennæ of 14 segments. Abdomen ovoid, the dorsum arched.

Nests spherical, placed on the stems of shrubs a foot or two from the ground.

Hab. Malay Peninsula (Singapore). Type, No. 98.

Very close to *T. sarawakensis*, but the soldiers are smaller, with antennæ of 12 segments and rostrum slightly swollen at the base.

TERMES GERMANUS, n. sp.

Male 7 mm. long. Head castaneous; legs and thorax subisabellinous; abdomen fuliginous. Head ovate. Eyes and ocelli large, approximated. Fenestra narrow, elongate. Antennæ of 15 segments. Epistoma slightly prominent. Pronotum with nearly straight anterior margin; antero-lateral angles but

slightly deflexed; postero-lateral margin nearly straight. Posterior margin of the mesonotum somewhat broad, concave; posterior margin of the metanotum narrower. Wings 11 mm. long, umbrinous; the median is nearer to the submedian than the subcostal, it reaches to the apex of the wing, it may or may not have offsets; the submedian has 8 offsets and reaches nearly to the apex of the wing. The hind legs exceed the abdomen. The abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad. The abdomen of the queen reaches a length of 16 mm.; there is well-marked secondary chitization; the cuticle has numerous minute pigment-spots and hairs.

Soldier 3 mm. long. Head .8 mm. broad, dark castaneous. Antennæ of 13 segments, the 3rd longer than the 2nd or 4th. Rostrum stout, conical, with red tip, its anterior surface is not in a plane with the anterior surface of the head. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, elevated. Posterior femora umbrinous, reaching to the 7th abdominal segment. Abdomen ovoid, the dorsal plates arched, fuliginous. Abdominal papillæ absent.

Worker 4 mm. long. Head castaneous. Antennæ of 14 segments. Abdomen ovoid, with the dorsum arched.

Nest spherical.

Hab. Malay Peninsula (Singapore, Bukit Timah). Type, No. 20.

Only one nest of this was found; it was 10 feet from the ground and larger than nests of *T. singaporiensis*. It is quite possible that this species and the last two should be regarded as varieties of a single species.

. *Section with Termes lacessitus for Type.*

Males 8 to 9 mm. long. Eyes and ocelli large. Fenestra present. Antennæ of 15 segments, the 3rd slightly longer than the 2nd. Wings fuliginous, the median nearer the submedian than the subcostal. Abdominal papillæ absent.

Soldier 4 mm. long. Head 1 mm. broad or less. Antennæ of 14 segments, the 3rd longer than the 2nd, shorter than the 4th, the 7th elongate, at least twice as long as broad. Rostrum rather slender, its anterior margin forming a curve with the front surface of the head. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe

short, not much raised. Abdomen small, oblong. Posterior femora exceeding the abdomen. Abdominal papillæ absent.

All the species of this group build rounded nests on the boughs of bushes. Their nests are very fragile. The king and queen live just beneath the main supporting bough. The queen has the abdomen remarkably arched; when alive her abdomen has generally a bright orange colour, but the colour soon disappears in spirit. The soldiers are very eager to attack when the nest is opened, but the workers rush out and throw themselves headlong to the ground.

TERMES LABORATOR, n. sp.

King 8 mm. long. Head castaneous; thorax latericious; abdomen badius; legs ochraceous. Head ovate. Ocelli separated from the eyes by more than a diameter. Fenestra as large as an ocellus. Antennæ with the 3rd segment longer than the 2nd. Epistoma slightly prominent. Pronotum half as long as broad, the anterior margin nearly straight, the antero-lateral angles rounded, slightly depressed. Mesonotum and metanotum with the posterior margins broad, obtusely lobed. Anterior wing-stumps larger than the posterior. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the postero-lateral margins slightly concave; the abdomen of the queen reaches a length of 12 mm., the dorsum is much arched; there is marked secondary chitinization; the lateral cuticle of the abdomen has minute pigment-spots and hairs.

Soldier 4 mm. long. Head badius; thorax and abdomen umbrinous; legs isabelline. Head 1 mm. broad. Antennæ 2.5 mm. long; of 14 segments, the 3rd much longer than the 2nd, but shorter than the 4th; the 7th is the longest, it is more than twice as long as broad. The rostrum is rather slender, its anterior surface makes a marked curve with the anterior surface of the head. Viewed from in front there is a swelling between the base of the rostrum and the base of the antennæ. Rudimentary mandibles visible. Gula not so long as broad. Pronotum obscurely saddle-shaped, the anterior lobe short, not much elevated. Posterior femora reaching nearly to the apex of the abdomen. Abdomen ovoid, somewhat laterally compressed, the dorsal plates arched. Abdominal papillæ absent.

Worker 5 mm. long. Head castaneous; thorax and abdomen umbrinous. Antennæ of 15 segments. Abdomen large, ovoid, with arched dorsum. Hind legs exceeding the abdomen.

Nests spherical, about 10 feet from the ground.

Hab. Malay Peninsula (Malacca). Type, No. 535.

TERMES LACESSITUS, n. sp. (Pl. 25. figs. 80-82.)

Imago castaneous above; head dark castaneous; antennæ, legs, and abdomen below fulvous. Head ovate. Ocelli separated from the eyes by a diameter. Fenestra narrow, obscure. Antennæ of 15 segments, the 3rd longer than the 2nd. Epistoma scarcely prominent. Pronotum half as long as broad, the anterior margin nearly straight, slightly elevated; the antero-lateral angles rounded, somewhat deflexed; the postero-lateral angles nearly straight. The posterior margins of the mesonotum and metanotum rather broad, slightly concave. Anterior wing-stumps larger than the posterior. The abdomen of the queen reaches a length of 12 mm.; the dorsum is much arched, especially near the base; secondary chitinization scanty, the lateral cuticle of the abdomen with minute pigment-spots and hairs.

Soldier 4 mm. long. Head black; thorax and abdomen fuliginous; the tarsi pale. In many of the soldiers (perhaps young ones) the abdomen is isabelline. Head .8 mm. broad. Antennæ 3 mm. long; of 14 segments, the 3rd twice as long as the 2nd, then increasing to the 8th, which is three times as long as broad. Rostrum large, its anterior surface making a distinct curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula not half as long as broad. Pronotum saddle-shaped, the anterior lobe short and but little raised. Posterior femora exceeding the abdomen. Abdominal papillæ absent.

Worker 5 mm. long. Head castaneous; thorax and abdomen umbrinous. Antennæ of 15 segments. Hind legs exceeding the abdomen. Abdomen large, ovoid, the dorsum arched.

Nests spherical; on the branches of shrubs 10 feet from the ground.

Hab. Malay Peninsula (Singapore). Type, No. 102.

TERMES FILICORNIS, n. sp.

Male 8 mm. long; fuliginous, head castaneous, legs ochraceous. Head ovate. Ocelli separated from the eyes by two

diameters. Fenestra not as large as an ocellus. Antennæ of 15 segments, the 3rd somewhat larger than the 2nd. Epistoma convex and prominent. Pronotum about half as long as broad, the anterior margin nearly straight; the antero-lateral angles rounded, scarcely deflexed; the postero-lateral margins nearly straight. Mesonotum and metanotum with the posterior margins broad, obtusely lobed. Anterior wing-stumps larger than the posterior. Wings 12 mm. long, umbrinous, a faint yellow stain runs along the posterior border of the subcostal; the median nerve is nearer the submedian than the subcostal, it bifurcates and becomes faint in the apical third of the wing; the submedian has 10 offsets, it becomes faint towards the apex, but reaches the posterior margin a fifth from the apex of the wing. The hind legs reach to the 7th abdominal segment. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the postero-lateral margins somewhat concave.

Soldier 3.5 mm. long. Head subcastaneous; thorax and abdomen umbrinous; antennæ isabelline; legs ochroleucous. Antennæ 3 mm. long, the 3rd segment not much longer than the 2nd, the 4th much longer, the 7th the longest, three times as long as broad. Rostrum moderate, its anterior surface making a marked curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula shorter than long. Pronotum saddle-shaped, the anterior lobe very short, scarcely elevated. Posterior femora exceeding the abdomen. Abdomen small, ovoid. Abdominal papillæ absent.

Worker 4 mm. long. Head subcastaneous; thorax and abdomen umbrinous above. Antennæ of 15 segments. Hind legs exceeding the abdomen. Abdomen large, ovoid, the dorsal plates arched.

Hab. Borneo (Sarawak). Type, No. 312.

TERMES SORDIDUS, n. sp.

Male 7.5 mm. long; fuliginous, head castaneous, legs and antennæ umbrinous. Ocelli separated from the eyes by half a diameter or less. Fenestra rather small. Antennæ of 15 segments, the 3rd rather larger than the 2nd. Epistoma slightly convex and prominent. Pronotum more than half as long as broad; the anterior margin straight, slightly elevated; the

antero-lateral angles rather sharply rounded, slightly depressed; the postero-lateral margins nearly straight. Mesonotum and metanotum with posterior margins broad, very slightly concave. Anterior wing-stumps larger than the posterior. Wings 12 mm. long, umbrinous; the median nerve not much nearer to the submedian than the subcostal, it gives one or two offsets and reaches the apex of the wing, but becomes there very faint; the submedian has 6 offsets, it reaches the posterior margin at a third from the apex of the wing. Hind legs reaching to 7th abdominal segment. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half as long as broad, the postero-lateral margins concave. The abdomen of the queen reaches a length of 14 mm., the dorsum is much arched, especially at the base; secondary chitinization is absent; the lateral cuticle of the abdomen has minute pigment-spots and hairs.

Soldier 3.5 mm. long, fuliginous; head black. Antennæ 3 mm. long, of 14 segments, the 3rd longer than the 2nd, but very variable in length, the 7th the longest, scarcely 3 times as long as broad. Rostrum rather large. Rudimentary mandibles easily visible. Gula nearly as long as broad. Pronotum saddle-shaped, the anterior lobe very short, scarcely elevated. Posterior femora exceeding the abdomen. Abdomen small, ovoid. Abdominal papillæ absent.

Worker 5 mm. long, umbrinous, the head castaneous. Antennæ of 15 segments. Hind legs exceeding the abdomen. Abdomen large, ovoid.

Hab. Borneo (Sarawak). Type, No. 261.

TERMES ALBIPES, n. sp.

Male 8.5 mm. long; dark castaneous, legs fuliginous, the tarsi and apical segments of the antennæ pale. Head ovate. Ocelli distant half a diameter from the eyes. Fenestra very narrow, almost absent. Antennæ of 15 segments, the 3rd slightly larger than the 2nd. Epistoma very slightly convex. Pronotum half as long as broad; anterior margin straight; antero-lateral corners obtusely rounded; postero-lateral margins nearly straight. Mesonotum and metanotum with the posterior margin broad and markedly concave. Anterior wing-stumps somewhat larger than the posterior. Wings 14 mm. long, umbrinous; the median much nearer the submedian than the

subcostal, becomes very fine, but gives two or three offsets and reaches the apex of the wing; the submedian has 9 offsets and reaches to a fifth from the apex of the wing. The hind legs reach to the apex of the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, its postero-lateral margins concave. Abdomen of the queen reaches a length of 14 mm., the dorsum is much arched; secondary chitination is scanty; the lateral cuticle has minute pigment-spots and hairs.

Soldier 4 mm. long; black above, fuliginous below, the 12 apical segments of the antennæ, the tibiæ, and the tarsi white. Head .8 mm. broad. Antennæ of 14 segments, the 3rd longer than the 2nd, the 7th the longest, quite three times as long as broad. Rostrum rather large, its anterior surface making a marked curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula nearly as long as broad. Pronotum saddle-shaped, the anterior lobe short and little elevated. Posterior femora exceeding the abdomen. Abdomen small, ovoid. Abdominal papillæ absent.

Worker 5 mm. long, fuliginous; head subcastaneous. Antennæ of 15 segments. Abdomen rather large, ovoid, the ventral plates much arched.

Hab. Borneo (Sarawak). Type, No. 363.

Section with Termes hospitalis for Type.

Male 8 to 18 mm. long. Ocelli large, but separated from the eyes by a diameter. Fenestra large. Antennæ of 15 segments, the 3rd twice as long as the 2nd. Wings fuliginous, the median near and parallel to the submedian.

Soldier 4 mm. long. Head black. Antennæ of 14 segments, the 3rd twice as long as the 2nd and generally longer than the 4th, the 6th elongate, at least twice as long as broad. Rostrum slender, its anterior border forming a curve with the front of the head, its tip red. Mandibles rudimentary. Gula not so long as broad. Pronotum saddle-shaped but well chitinated, the anterior lobe but little elevated. Abdomen ovoid, not large. Legs very long, the posterior femora exceeding the abdomen. Abdominal papillæ absent.

The nests of this group are generally in the ground, but they may be on large tree-trunks. The termites traverse the jungle in long troops, which may be met returning any hour till mid-day, the workers carrying each a ball of food in its mouth.

TERMES UMBRINUS, n. sp.

Male 10 mm. long; above castaneous, beneath fuliginous, tibiæ pale. Head ovate. Ocelli distant one diameter from the eyes. Fenestra white, larger than an ocellus. Antennæ of 15 segments, the 3rd longer than the 2nd or 4th. Epistoma but slightly convex. Pronotum more than half as long as broad, the anterior margin straight, the antero-lateral corners depressed, obtusely rounded, the postero-lateral margins nearly straight, the posterior margin broadly rounded. Mesonotum and metanotum with posterior margins broad, concave. Anterior wing-stumps slightly larger than the posterior. Wing 14 mm. long, umbrinous; subcostal nerve thick; the median nerve runs much nearer the submedian than the subcostal, it has 4 or 5 offsets and reaches the apex of the wing but becomes very faint; the submedian has 10 offsets and reaches to a third from the apex of the wing. Hind legs much exceeding the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment not half so long as broad, the postero-lateral margins slightly concave. The abdomen of the queen reaches a length of 22 mm.; secondary chitization strongly developed; the lateral cuticle of the abdomen presents numerous minute pigment-spots and hairs.

Soldier 4 mm. long; umbrinous. Head 1 mm. broad. Antennæ 4 mm. long, of 14 segments, the 3rd the longest, about 3 times as long as the 2nd. Rostrum slender, the anterior surface making a curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe but little raised. Posterior femora exceeding the abdomen in length. Abdomen ovoid. Abdominal papillæ absent.

Worker 4 mm. long; umbrinous, head castaneous. Antennæ of 15 segments. Posterior femora reaching to the 8th segment of the abdomen. Abdomen large, ovoid, laterally compressed, the dorsal plates much arched.

Hab. Borneo (Sarawak). Type, No. 258.

TERMES HOSPITALIS, n. sp. (Pl. 25. figs. 83-86.)

Male 9 mm. long; castaneous, the ventral plates of the abdomen umbrinous except at the sides, the tibiæ and antennæ umbrinous. Head ovate. Ocelli separated from the eyes by less than a diameter. Fenestra smaller than an ocellus. Antennæ of 15 segments, the 3rd longer than the 2nd or 4th. Epistoma

slightly convex and prominent. Pronotum more than half as long as broad, the anterior margin straight, the antero-lateral angles depressed, rounded; the postero-lateral margins straight. Mesonotum and metanotum with the posterior margins broad, slightly concave. Anterior wing-stumps slightly larger than the posterior. Wings 14 mm. long, umbrinous; the subcostal is broad and fuliginous, and has a yellow stain along its posterior border; the median nerve runs near and parallel to the submedian, it becomes faint and disappears in the apical third of the wing; the submedian has 14 offsets, it reaches to the apex of the wing but becomes very faint. Hind legs much exceeding the abdomen. Abdominal papillæ absent.

Female with the ventral plate of the 7th abdominal segment half as long as broad, the postero-lateral margins slightly concave. The abdomen of the queen reaches a length of 20 mm.; the secondary chitinization is strong and well defined; the lateral cuticle of the abdomen has minute pigment-spots and hairs.

Soldier 4 mm. long. Head and thorax dark castaneous, abdomen isabelline. Head 1 mm. broad. Antennæ 3.5 mm. long, of 14 segments, the 3rd three times as long as the 2nd, the others decreasing towards the apex. Rostrum slender, its anterior surface making a marked curve with the anterior surface of the head. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe not much raised. Posterior femora not much exceeding the abdomen. Abdomen ovoid, the dorsal plates arched. Abdominal papillæ absent.

Worker 4 mm. long; fuliginous, the head black. Antennæ of 16 segments. Posterior femora reaching to the 8th segment of the abdomen. Abdomen ovoid, laterally compressed, the dorsum much arched.

Nests of this species generally occupy the centre of nests of *T. comis*, and have large entrances situated at the upper part.

Hab. Borneo (Sarawak); Malay Peninsula (Singapore).
Type, No. 304.

TERMES RUFUS, n. sp.

Soldier 3.5 mm. long. Head testaceous, darker on the vertex, thorax subttestaceous; abdomen fuliginous, tibiæ ochraceous. Head 1 mm. broad. Antennæ 2.5 mm. long, of 14 segments, the 3rd more than twice as long as the 2nd; the 4th, 5th, 6th, and 7th subequal to the 3rd, the others decreasing in length towards

the apex. Rostrum slender, the anterior surface making a distinct curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe short, not much elevated. Hind legs exceeding the abdomen. Abdomen ovoid, the dorsal plates not much arched. Abdominal papillæ absent.

Worker 3·5 mm. long. Head and thorax testaceo-castaneous; abdomen fuliginous; legs umbrinous. Antennæ 2·5 mm. long, of 15 segments. Posterior femora reaching to the 8th abdominal segment. Abdomen ovoid, the dorsal plates much arched.

Hab. Malay Peninsula (Perak). Type, No. 115.

TERMES BICOLOR, n. sp.

Nymph with antennæ of 15 segments.

Soldier 3·5 mm. long. Rostrum subttestaceous, head subcastaneous; thorax, legs, and antennæ ochroleucous, abdomen fuliginous. Head 1·4 mm. broad. Antennæ 3·5 mm. long, of 14 segments, the 3rd three times as long as the 2nd, the others decreasing in length towards the apex. Rostrum slender, its anterior surface making a curve with the anterior surface of the head. Rudimentary mandibles easily visible. Gula not so long as broad. Pronotum saddle-shaped, the anterior lobe not much elevated. Posterior femora much exceeding the abdomen. Abdomen ovoid, the dorsal plates much arched. Abdominal papillæ absent.

Worker 3·5 mm. long. Head subcastaneous; thorax and legs ochroleucous; abdomen ovoid, the dorsal plates much arched. Antennæ of 15 segments. Posterior femora reaching to the 8th abdominal segment. Abdomen ovoid, the dorsal plates much arched.

Hab. Malay Peninsula (Singapore, Pulo Brani).

TERMES LONGIPES, n. sp.

Queen castaneous, legs ochraceous. Head ovate. Ocelli approximated to the eyes. Epistoma but slightly convex and prominent. Pronotum with straight anterior margin, rounded antero-lateral angles but slightly deflexed, postero-lateral margins nearly straight. Mesonotum with posterior border broad, markedly concave. Metanotum with posterior border narrower, also concave. Anterior wing-stumps larger than the posterior. Abdomen reaches a length of 20 mm. The plates of secondary

chitinization large and dark castaneous. Lateral cuticle of abdomen with hairs and rather large pigment-spots.

Soldiers of two sizes. The larger 5 mm. long; head castaneous, thorax and abdomen umbrinous, legs and antennæ pale. Head 1.5 mm. broad. Antennæ 3.5 mm. long, of 14 segments, the 3rd segment four times as long as the 2nd, the others diminishing in length towards the apex. Rostrum slender, its anterior surface making a marked curve with the anterior surface of the head. Rudimentary mandibles readily visible. Gula not so long as broad. Pronotum saddle-shaped, with the anterior lobe very short and scarcely raised. Hind femora exceeding the abdomen. Abdomen ovoid, the dorsal plates somewhat arched. Abdominal papillæ absent.—The smaller soldiers 4 mm. long, more slender than the large ones, but similar in colour. Head .8 mm. broad. Antennæ 3.2 mm. long.

Worker 5 mm. long; head subcastaneous, thorax and abdomen umbrinous, legs and antennæ pale. Antennæ of 15 segments. Posterior femora reaching to the 7th abdominal segment. Abdomen large, ovoid, the dorsal plates much arched.

Hab. Malay Peninsula (Perak); Borneo (Sarawak), (Marudi).

EXPLANATION OF THE PLATES.

PLATE 22.

Nest of Bornean White Ant.

PLATE 23.

- | | | | |
|---------|-------------------------------|------------------------------|------|
| Fig. 1. | <i>Hodotermes Havilandi.</i> | Soldier. | ×3. |
| 2. | " " | Underside of soldier's head. | ×3. |
| 3. | <i>Calotermes domesticus.</i> | Soldier (side view). | ×6. |
| 4. | " " | Underside of soldier's head. | ×8. |
| 5. | " " | Imago. | ×6. |
| 6. | " " | Wing. | ×6. |
| 7. | <i>Termes natalensis.</i> | Soldier. | ×4. |
| 8. | " " | Underside of soldier's head. | ×5. |
| 9. | " " | Imago. | ×4. |
| 10. | " " | Wing. | ×2. |
| 11. | <i>Termes vulgaris.</i> | Soldier. | ×8. |
| 12. | " " | Underside of soldier's head. | ×8. |
| 13. | " " | Imago. | ×3. |
| 14. | " " | Wing. | ×1½. |

- Fig. 15. *Termes incertus*. Soldier. $\times 8$.
 16. " " Underside of soldier's head. $\times 8$.
 17. " " Imago. $\times 4$.
 18. " " Wing. $\times 2$.
 19. *Termes travians*. Soldier. $\times 10$.
 20. " " Underside of soldier's head. $\times 12$.
 21. " " Imago. $\times 6$.
 22. " " Wing. $\times 3$.
 23. *Termes translucens*. Soldier. $\times 4$.
 24. " " Underside of soldier's head. $\times 6$.
 25. " " Imago. $\times 4$.
 26. " " Wing. $\times 3$.

PLATE 24.

- Fig. 27. *Termes æqualis*. Soldier. $\times 10$.
 28. " " Underside of soldier's head. $\times 10$.
 29. " " Neoteinic queen. $\times 5$.
 30. *Termes planus*. Soldier. $\times 8$.
 31. " " Underside of soldier's head. $\times 8$.
 32. " " Imago. $\times 10$.
 33. " " Wing. $\times 8$.
 34. *Termes tenuior*. Soldier. $\times 8$.
 35. " " Underside of soldier's head. $\times 8$.
 36. " " Imago. $\times 8$.
 37. " " Wing. $\times 8$.
 38. *Termes dubius*. Soldier. $\times 8$.
 39. " " Underside of soldier's head. $\times 12$.
 40. " " Imago. $\times 8$.
 41. " " Wing. $\times 6$.
 42. *Termes sulphureus*. Soldier. $\times 8$.
 43. " " Side view of soldier's head. $\times 10$.
 44. " " Imago. $\times 8$.
 45. *Termes dentatus*. Soldier. $\times 8$.
 46. " " Side view of soldier's head. $\times 8$.
 47. " " Imago. $\times 6$.
 48. " " Wing. $\times 4$.
 49. *Termes bilobatus*. Soldier. $\times 6$.
 50. " " Side view of soldier's head. $\times 6$.
 51. " " Imago. $\times 6$.
 52. " " Wing. $\times 3$.
 53. *Termes nemorosus*. Soldier. $\times 6$.
 54. " " Side view of soldier's head. $\times 6$.
 55. " " Imago. $\times 6$.
 56. " " Wing. $\times 4$.

PLATE 25.

- Fig. 57. *Termes setiger*. Soldier. $\times 6$.
 58. " " Side view of soldier's head. $\times 8$.
 59. " " Imago. $\times 6$.
 60. " " Wing. $\times 4$.
 61. *Termes comis*. Soldier. $\times 8$.
 62. " " Side view of soldier's head. $\times 8$.
 63. " " Imago. $\times 8$.
 64. " " Wing. $\times 5$.
 65. *Termes foraminifer*. Soldier. $\times 8$.
 66. " " Side view of soldier's head. $\times 10$.
 67. " " Imago. $\times 8$.
 68. " " Wing. $\times 6$.
 69. *Termes fuscipennis*. Soldier. $\times 8$.
 70. " " Side view of soldier's head. $\times 8$.
 71. " " Imago. $\times 6$.
 72. " " Wing. $\times 3$.
 73. *Termes regularis*. Soldier. $\times 6$.
 74. " " Imago. $\times 6$.
 75. " " Wing. $\times 4$.
 76. *Termes singaporiensis*. Soldier. $\times 10$.
 77. " " Side view of soldier's head. $\times 10$.
 78. " " Imago. $\times 6$.
 79. " " Wing. $\times 3$.
 80. *Termes lacessitus*. Soldier. $\times 8$.
 81. " " Side view of soldier's head. $\times 8$.
 82. " " Nymph. $\times 6$.
 83. *Termes hospitalis*. Soldier. $\times 8$.
 84. " " Side view of soldier's head. $\times 8$.
 85. " " Imago. $\times 6$.
 86. " " Wing. $\times 3$.
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